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ABSTRACT

Fort Apache Indians live in relative geographic and cultural isolation. The Apaches are younger than the general population, have a lower rate of overall labor-force participation, and typically work for the Federal Government or in tribal enterprises. A median family with 5 children subsists on a median annual family income of less than $1,000. Nearly 60% of working-age Apaches receive assistance payments from various public and private agencies. A lack of transportation plus the relatively low median educational attainment seems to indicate that Fort Apaches will not be able to compete equally in an uncovered labor market for some years. A coordinated effort to provide quality education, including skills training, is necessary to bring about increased labor-force participation. (JH)

*Occasional Paper Number 3*

*FORT APACHE RESERVATION MANPOWER RESOURCES*

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# INDIAN MANPOWER RESOURCES IN THE SOUTHWEST

*A PILOT STUDY*

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# Fort Apache Reservation Manpower Resources

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**1969**

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# Preface

The Indian Manpower Resource Study officially started in June, 1967. The entire study was made possible by a grant through the United States Employment Service to the Arizona State Employment Service and ultimately to the Bureau of Business and Economic Research, College of Business Administration, Arizona State University.

This monograph is a part of a larger study dealing with five Indian reservations in Southwestern United States. Besides the Fort Apache Reservation, the larger study includes the San Carlos, Papago, Acoma, and Laguna reservations. It is published under the title *Indian Manpower Resources in the Southwest: A Pilot Study.*

Space does not permit a discussion of the sampling method used to generate data and thus Chapter 1 of the larger study should be consulted for a review of this important aspect. It is mandatory to mention, however, that the method used proved accurate with respect to overall population characteristics. Responses to a few individual questions were occasionally so dispersed as to leave some cell frequencies so small that they escape statistical validation; yet, these data were suggestive and, in some cases, were included for reader evaluation.

The primary purpose of the study is to provide basic and necessary manpower information essential for planning and developing effective services and programs for Fort Apache Indians.

Benjamin J. Taylor, Director
Bureau of Business and
Economic Research

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# Fort Apache Reservation Manpower Resources

The White Mountain Apache Tribe inhabits the Fort Apache Indian Reservation. The reservation is located in the White Mountains of eastern Arizona approximately 200 miles from the two largest metropolitan centers within the state, Phoenix and Tucson. The reservation itself contains 1,664,872 acres of land with a varied topography and climate. The southwestern portion has an elevation of approximately 2,700 feet and is semi-arid in climate; annual precipitation is about 12 inches. The mountainous area of the reservation reaches an elevation of 11,459 feet, which is above the timberline. Annual precipitation averages about 30 inches in the highest areas.

The on-reservation population is estimated from the tribal-maintained roll to total 5,159. At the time the sample was drawn, May 1, 1968, the total population 16 years of age and over was estimated at 2,166. This number does not include persons that may have recently moved on the reservation.

This study of the Fort Apache Indians will deal with on-reservation employment sources, current characteristics of the manpower resource, employment and unemployment, occupation and industry characteristics, training and education, and income and expenditure patterns.

## On-Reservation Nonfarm Employers

The White Mountain Apache does not appear to be nearly as mobile to off-reservation places as members of some other tribes. This apparent immobility is largely explained in terms of the extent of nonfarm employment opportunities on the reservation and an elaborate system of income sharing. The income-sharing feature will be dealt with in a later section. Employment on the reservation by source in July, 1968, is reported in Table I. The table contains the employer reports of the employment level in July, 1968, when the

TABLE I
FORT APACHE RESERVATION NONFARM INDIAN EMPLOYMENT

| Employer | Number Employed: Current July, 1968 | Number Employed: Seasonal Peak |
|---|---|---|
| Hatchery | 5 | 5 |
| Public school | 21 | 36 |
| Bakery | 7 | 7 |
| Construction | 13 | 15 |
| Railroad | 10 | 10 |
| General stores | 36 | 38 |
| Arizona State Employment Service | 2 | 2 |
| Restaurants | 9 | 9 |
| Bureau of Indian Affairs | 93 | 109 |
| Bureau of Indian Affairs (Firefighters) | | 250 |
| Orphanage | 10 | 10 |
| Mission school | 2 | 2 |
| Lumber sales | 176 | 176 |
| Electric light and power | 1 | 1 |
| Lumber mill | 88 | 88 |
| U. S. Public Health Service | 43 | 43 |
| Logging company | 62 | 62 |
| Sawmill | 44 | 44 |
| Fort Apache Tribe | 236 | 333 |
| TOTAL | 858 | 1,240 |

information was requested by the State Employment Interviewer, and employer estimates of Indian employment during the seasonal peak. In July, the total number of Apaches employed was 858. How-

ever, the various seasonal peaks require the services of 1,240. The 858 mentioned largely reflect permanent on-reservation employment. Permanent employment is construed to mean relatively regular work, but does not mean full utilization of the human resource. Opportunities for nonfarm employment on the reservation appear relatively large as reservations go. The Arizona State Employment Service estimate in 1961 was that 865 men and women were employed on wage or salaried jobs and still another 120 were self-employed.[1] Some progress has been made since 1961; the employment total published by the State Employment Service included both farm and nonfarm jobs. Only nonfarm jobs are reported in Table I. Even so, the progress made in developing jobs has not been enough.

The largest single employer on the reservation is the Fort Apache Tribe itself. As of July, 1968, it provides approximately 236 permanent jobs distributed throughout the various enterprises operated as tribal endeavors. The 1968 seasonal peak of tribal employment provided 333 jobs for Apache members. A great deal of the seasonality of work results from efforts in developing tourism and recreational facilities.

Lumbering operations involving several employers provided significant opportunities for reservation people. The categories labeled lumber sales, lumber mill, sawmill, and logging company provide 370 jobs on both a permanent and peak basis. The tribe also devotes some of its own resources to sawmill and lumbering operations.

The Bureau of Indian Affairs is an important employer for the White Mountain Apache, as it is on most reservations. The agency reports ninety-three jobs considered as permanent, but during the peak employment season the total increases to 359. The higher number is due mostly to 250 firefighters employed during the season when the risk of forest fires is great. The agency provides various services to the Indians requiring the employment of Apaches to assist in the administration and operation of details.

Several other employment sources exist on the reservation. Individually, they do not employ as many as do the employers mentioned, but collectively quite a few jobs are provided. Included among these employers are the U. S. Public Health Service, public schools, trading posts or general stores, a bakery, and a railroad.

In summary, nonfarm opportunities are varied on the Fort Apache Reservation. Individuals depend largely upon the tribe itself, lum-

bering, and the Bureau of Indian Affairs for employment opportunities. The varied sources of employment are, however, available.

If the full nature of the on-reservation human resource were known, further expansion of employment opportunities might be facilitated. We turn now to view the characteristics of the manpower resource revealed in the IMRS survey.

## Characteristics of the Manpower Resource

The Fort Apache on-reservation population 16 years of age and over of 2,166 in 1968 was composed almost equally of males and females. Table II reveals the age group percentages for the 50.7 percent males and 49.5 percent females.

TABLE II
FORT APACHE POPULATION BY AGE AND SEX

| | Females | | Males | |
|---|---|---|---|---|
| Age Group | Percent of Total Females | Percent of Total Population | Percent of Total Males | Percent of Total Population |
| 16-19 | 16.2 | 8.0 | 11.4 | 5.8 |
| 20-29 | 29.4 | 14.5 | 30.4 | 15.4 |
| 30-39 | 20.2 | 10.0 | 20.7 | 10.5 |
| 40-49 | 12.5 | 6.2 | 13.9 | 7.1 |
| 50-59 | 5.9 | 2.9 | 10.0 | 5.1 |
| 60-69 | 12.5 | 6.2 | 10.7 | 5.4 |
| 70-79 | 2.9 | 1.5 | 2.5 | 1.3 |
| 80-89 | 0.4 | 0.2 | 0.0 | 0.0 |
| 100-109 | 0.0 | 0.0 | 0.4 | 0.2 |
| TOTAL | 100.0 | 49.5* | 100.0 | 50.8* |

N = 272 females; 280 males.
* The two categories combined do not sum to 100 percent due to rounding.

### Age and Sex

The 20-29 age group for both males and females is the largest category. The combined total for this age group constitutes 29.9 percent of the total population with men accounting for 15.4 percent and women 14.5 percent. Men aged 20-29 provide 30.4 percent of all on-reservation males defined as being of labor force age. Women

in their twenties account for 29.4 percent of all females of labor force age.

The age 30-39 category is the second largest group of the population. Combined, both sexes account for 20.5 percent of the total. As in the 20-29 group males outnumber females in the 30-39 groups. Men constitute 10.5 percent of all persons in the age bracket and 20.7 percent of all males, while the women 30-39 constitute 10.0 percent of all on-reservation Indians and 20.2 percent of women of all age groups.

Teen-agers between 16-19 years of age account for 13.8 percent of the total working-age population. Females, however, are more numerous than males in this age group. Except for this group and the 60 and above group, males outnumber females. In the teen-age category, females account for 8 percent of the tribal population, but males comprise only about 6 percent. The teen-age male makes up about 11 percent of all males; females in their teens of working age are more significant among all women, accounting for 16.2 percent of the total.

Apache men in the categories between ages 40-59 account for 12.2 percent of the total reservation Indian population. Women of the same ages account for only 9.1 percent of the total. Women in their fifties constitute a lesser proportion of the total population (2.9 percent) than any single group of men or women except those categories over age 70. The death toll among tribal women must be heavy for those reaching the fifties.

Apache women that survived their fifties appear to have done better than men in that they account for 6.2 percent of the total population and men only 5.4 percent. Of females, those aged 60-69 constitute 12.5 percent. Men in the same group account for about 11 percent of all males.

Slightly more women than men reach their seventies. Females aged 70-79 make up 1.5 percent of the population; the percentage of males in this age group is less (1.3). None of the men sampled claimed they were in their eighties, but less than one half of one percent of the females did make such a claim. About the same percentage of males (0.4) contended they were between 100-109. Individuals of such advanced age may or may not be as old as they claim. Record keeping was not done on any careful basis in the 1860's. For that matter vital statistics are relatively recent additions to the records. Whatever the actual age, the years of life professed by a few are many. Approximately 49 percent of the total Fort Apache working-age

population are men between ages 16-69. Stated in another way, slightly over 97 percent of all males can logically be included as within the working-force limits. Women within the same category, 16-69, account for nearly 48 percent of the total on-reservation population; and this group constitutes nearly 97 percent of all females. Even if all persons over age 65 could be labeled as unavailable for labor force activity under all circumstances, it is obvious that of the total population most are still capable of performing work when age is the only variable considered. In short, the White Mountain Apache Tribe has the age composition to supply a sizable work force.

Additional characteristics of the Fort Apache population were ascertained through the research and provide more explicit information regarding the labor force potential of the White Mountain Apache.

## Family Characteristics

*Marital Status.* Marital Status may be taken as an indicator of the need for individuals, particularly men, to permanently attach themselves to the labor force. Table III reveals the marital status of the Apache population on the basis of 553 responses to the question seeking such information.

TABLE III
MARITAL STATUS OF THE POPULATION

| Marital Status | Percent |
|---|---|
| Married | 55.5 |
| Widowed | 8.7 |
| Divorced | 2.9 |
| Separated | 1.6 |
| Never-married | 31.3 |
| TOTAL | 100.0 |

N = 553

Approximately 56 percent (55.5) of the working-age population is married; however, a considerable percentage (31.3) has never been married. It may well be that many in the latter group are unable to enter marriage for financial reasons. Common-law marriages may well be a factor among the unemployed; they may or may not consider themselves married. Possibly, a fourth to a third of the

never-marrieds are too young to marry since they may yet be enrolled in high school. On the other hand, there is enough population imbalance by age to account for the inability of some to marry. It will be recalled from the previous discussion of Table II that men outnumber women in every age category except the 16-19 and 60-69 age groups. This fact is especially critical since to find mates may require moving to other Apache reservations. There is, of course, no assurance that the situation would be different elsewhere. For whatever reasons, the fact remains that a significant percentage of the working-age population has never married.

Nearly 9 percent of the population are widowed, but divorce accounts for approximately 3 percent. Further, almost 2 percent revealed that they are separated from their mates. Divorces and separations combined constitute 4.5 percent of the working-age population. The White Mountain Apache family structure appears to be relatively stable; however, it is less so than that reported for the Papago reservation. It is not known to what extent financial difficulties burden families and account for dissolution of marriages.

Characteristics of family structure influencing working-force attachment can be provided in part by determining the number of children for whom basic subsistence must be provided. Table IV reveals the frequency of number of children in Fort Apache responses.

*Number of Children.* The median number of children based on information provided by respondents is two. However, it is clear that

TABLE IV

NUMBER OF CHILDREN REPORTED BY RESPONDENTS

| Number of Children | Percent |
|---|---|
| None | 34.6 |
| One | 8.0 |
| Two | 11.1 |
| Three | 9.2 |
| Four | 8.9 |
| Five | 9.4 |
| Six | 5.6 |
| Seven | 4.7 |
| Eight or more | 8.5 |
| TOTAL | 100.0 |

N = 552

the table reflects responses of many individuals who have never been married and generally would have no children anyway. Nearly 35 percent reported no children.

It is apparent also that the White Mountain Apache Tribe contains some relatively large family units. Nearly 9 percent have eight or more children. Approximately 5 percent have seven. In addition, in each separate category 9 percent of the population have either three, four, or five children. It is recognized that the number of children reported do not necessarily represent dependent children. As a matter of fact, age is not the sole determinant of dependency, given the nature of extended family life. The mere fact that an individual is twenty-five years of age, for example, does not automatically suggest independence from the family for support. Some individuals in the older age groups are as dependent upon families for economic support as they were at a younger age.

TABLE V
NUMBER OF CHILDREN BY MARITAL STATUS
(Percent)

| Marital Status | | Number of Children | | | | | | | | | Info. not Avail. | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8+ | 0 | | |
| Married | (1) | 10.1 | 14.1 | 11.4 | 13.1 | 14.7 | 8.2 | 6.5 | 13.1 | 8.8 | 0.0 | 100.0 |
| | (2) | 5.6 | 7.8 | 6.3 | 7.3 | 8.2 | 4.5 | 3.6 | 7.3 | 4.9 | 0.0 | 55.5 |
| Widowed | (1) | 2.1 | 16.7 | 14.6 | 16.7 | 10.4 | 8.3 | 4.2 | 8.3 | 18.8 | 0.0 | 100.1 |
| | (2) | 0.2 | 1.5 | 1.3 | 1.5 | 0.9 | 0.7 | 0.4 | 0.7 | 1.6 | 0.0 | 8.8 |
| Divorced | (1) | 0.0 | 25.0 | 25.0 | 0.0 | 12.5 | 6.3 | 18.8 | 6.3 | 6.3 | 0.0 | 100.2 |
| | (2) | 0.0 | 0.7 | 0.7 | 0.0 | 0.4 | 0.2 | 0.5 | 0.2 | 0.2 | 0.0 | 2.9 |
| Separated | (1) | 11.1 | 22.2 | 33.3 | 0.0 | 0.0 | 11.1 | 11.1 | 11.1 | 0.0 | 0.0 | 99.9 |
| | (2) | 0.2 | 0.4 | 0.5 | 0.0 | 0.0 | 0.2 | 0.2 | 0.2 | 0.0 | 0.0 | 1.7 |
| Never-married | (1) | 6.4 | 1.7 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 89.0 | 1.2 | 100.1 |
| | (2) | 2.0 | 0.5 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 27.7 | 0.4 | 31.2 |
| Info. not avail. | (1) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 100.0 |
| | (2) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.2 |
| TOTAL | (2) | 8.0 | 10.9 | 9.2 | 8.8 | 9.5 | 5.6 | 4.7 | 8.6 | 34.6 | 0.4 | 100.3* |

N = 552
(1) = Percent of total in each marital status category.
(2) = Percent of total responses.
* Does not sum to 100 percent due to rounding.

A better estimate of median family size can be made by refinement of the data presented in Table IV. Table V provides data re-

garding number of children by marital status. Such a refinement permits the elimination of the never-married group from a calculation of median children per family unit unless, of course, they report having children.

When the married category is considered separately, the median number of children is five. However, when all groups reporting children are considered together it is obvious that the median increases to six. Needless to say the median family size of the Fort Apache Indian is large, but again this is not to say that the figure reported represents dependency. Instead, it may be said that mutuality of dependence is probable because of the extended family arrangement. To a limited extent some double counting is present due to the sampling method.

It is of interest to note that nearly 10 percent of those persons never married have one child or more. Further, some of this group did not provide the information requested, but it is not known if this was intentional or merely an oversight. Nevertheless, family formation seems to extend rather significantly beyond the married category. Another consideration is the Apache definition of marriage. Some of the group may well have a common-law marriage, but the lack of a marriage license or ceremony may bear on their particular answer to the question. Others may have considered themselves married and, therefore, reported in the married category.

It is possible that the greatest proportion of nondependent children fall within the widowed group. It may well be that most children belonging to persons in this group are older than those responding in other categories. The median number of children reported by the widowed group, considered separately from the others, is 4.5.

The median number of children belonging to divorced persons is four. Those separated from spouses report a median of three. Thus, it is apparent that family responsibilities are heavy on the Fort Apache Reservation. The extent of responsibility sharing or, for that matter, perhaps shifting, will be considered in a later section.

In summary, Tables IV and V show that the White Mountain Apache family size is large. The responsibilities of family members to share the financial burden may cause some individuals to postpone or forego marriage. Alternatively, the recognized age imbalance of the population may be reflected in the never-married group. There may simply not be the proper ratio of males to females to permit some to marry. The relatively high number of children reported by

the group of single persons lends some support to this assertion. Nevertheless, potential for labor force participation is high since there is an observed burden to support large families that may be shared by all members. Alternatively, marriage may permit some to escape from financial responsibilities in that burdens may be shifted to the mate.

## Educational Attainment of the Population

Employers dealing with the general U. S. population as a source of labor supply usually give considerable attention to the number of

TABLE VI
EDUCATIONAL ATTAINMENT OF THE POPULATION

| Educational Attainment by Grade Completed | Female | | Male | |
|---|---|---|---|---|
| | Percent of Total Population | Percent of Total Females | Percent of Total Population | Percent of Total Males |
| None | 0.9 | 1.8 | 0.4 | 0.7 |
| 1 | 0.5 | 1.1 | 0.7 | 1.4 |
| 2 | 0.5 | 1.1 | 0.5 | 1.1 |
| 3 | 1.3 | 2.6 | 0.7 | 1.4 |
| 4 | 1.5 | 2.9 | 1.1 | 2.1 |
| 5 | 0.7 | 1.5 | 1.6 | 3.2 |
| 6 | 2.9 | 5.9 | 3.4 | 6.8 |
| 7 | 3.4 | 7.0 | 4.0 | 7.9 |
| 8 | 9.1 | 18.4 | 7.6 | 15.0 |
| 9 | 7.4 | 15.1 | 8.9 | 17.5 |
| 10 | 7.1 | 14.3 | 7.6 | 15.0 |
| 11 | 6.7 | 13.6 | 4.7 | 9.3 |
| 12 | 5.1 | 10.3 | 6.9 | 13.6 |
| 13 | 0.4 | 0.7 | 1.1 | 2.1 |
| 14 | 0.7 | 1.5 | 0.7 | 1.4 |
| 15 | 0.0 | 0.0 | 0.2 | 0.4 |
| 16+ | 0.0 | 0.0 | 0.0 | 0.0 |
| Info. not available | 1.1 | 2.2 | 0.5 | 1.1 |
| TOTAL | 49.3* | 100.0 | 50.6* | 100.0 |

N = 272 females; 280 males.

* The two categories combined do not sum to 100 percent due to rounding.

years of formal education completed in setting hiring standards. It is assumed that the greater the educational level attained, the greater the ability to learn a given task or adapt to new ones. Regardless of the merits of debate over establishment of some existing hiring standards, it is certain that some persons with relatively low levels of educational attainment have difficulties competing for scarce jobs. Table VI illustrates the educational attainments of working-age White Mountain Apaches. It provides insights into the current ability of tribal members to compete for jobs off the reservation. In addition, the educational attainments of working-age persons is crucial in relation to the attractiveness of the human resource potential for some employers that may contemplate reservation location.

No single respondent reported the attainment of a college degree. Yet, it is significant to note that men are more likely to undertake college education than women. Nearly 4 percent of men completed some formal college training; this group accounts for 2 percent of the total population. Only about 2 percent of women, on the other hand, reported college experience, constituting only 1 percent of the total population. It appears that the Fort Apache Reservation Indian has had only limited contact with institutions of higher learning to date. The reason may well be the lack of orientation toward occupational preparation such as is reflected in college curricula. It may also be that Apache isolation, both geographic and cultural, lowers significantly aspirations and knowledge of available opportunities. Alternatively, the cause might be the lack of desire or, for that matter, incentive to leave tribal land for any extended period of time. The White Mountain Apache does not seem to be very mobile in the direction of off-reservation locations.

Male Apaches also seem more likely than women to complete four years of high school. Nearly 14 percent of all men, representing about 7 percent of the population, have ended formal education with high school diplomas. In contrast, only about 10 percent of all women, 5 percent of the total population, have done as well. Of men and women with some level of high school completed, grades nine-twelve, 55 percent of men and 53 percent of women have some degree of experience with secondary instruction; both sexes together account for only 54.4 percent of the population. The Apache in recent years has increased his entry into high school, but the completion rate as yet is not high.

A significant proportion of both males and females drop out of school after completing the eighth grade. Women are more likely to

end their educational pursuit at this point than men. Fifteen percent of men concluded with the primary grades, but 18 percent of women ended formal training at this point.

Males and females are roughly balanced in terms of years of primary grades completed. Forty-two percent of all women concluded their education at some point during the primary years whereas about 40 percent of men did. The combined total represents 41 percent of the total tribal working-age population. It is probable that the majority of those ending formal training during the primary years are largely in the older categories. This assertion is premised on the contention that the older Apaches are more oriented toward agricultural types of work than are younger persons. With the decline in demand for agricultural laborers, it is likely that fewer young Indians have been subject to interruption of their educations by farm labor recruiters than has been the case with their older relatives.

In summary, over one-half of the White Mountain Apache working-age population has completed at least the ninth grade in school. Median grade attainment is nine years. Many of the Fort Apaches have the educational qualifications, in terms of years of education completed, to train for and perform skilled tasks. It may well be that refresher courses are necessary to build the manpower resource up to an acceptable level of performance to meet the requirements of employers in many industries. Nevertheless, the investment necessary to teach basic skills does appear massive in terms of the information at hand. For skilled jobs significant training is necessary since very little formal or informal experience exists among the Apache working-age population, and it is unable to compete with the general population for the types of jobs currently available throughout industry.

*Facility with English.* Some prospective employers may be reluctant to locate businesses on particular reservations through concern for the ability of Indians to follow instructions in English. Three questions were asked of respondents in order to determine the White Mountain Apache's ability to communicate in the English language. The first question dealt with the language used in the home: "What language do you most frequently speak in the home?"

Nearly 76 percent of 552 respondents reported that an Indian language is spoken most frequently in the home whereas about 25 percent speak English more often. Given the isolation of the White Mountain Apache from sizable metropolitan areas, there may well be a tendency for the use of Indian language to continue in importance

over time. Less than one-fourth of one percent speak a language different from English or Apache more often in their homes; this is probably due to intertribal marriage.

The second question asked dealt with the ability to speak in English. The more frequent use of the Apache language at home may not, of course, reveal the extent of facility with the English language. Nearly 93 percent of 554 respondents claim to speak English; only 7 percent of the population could not do so. It is likely that those who cannot speak English are concentrated in the elderly age groups which generally are not available for labor force participation. It is reasonable to assume that nearly all Apaches of working age can deal with the English language to some extent and should be able to follow general instructions necessary to perform simple work tasks.

The third question asked respondents: "Do you read English?" Nearly 90 percent replied in the affirmative. Ten percent, however, indicate inability to read English language publications. Probably a proportion of those unable to read do have the ability to speak with some facility. The general educational attainments of the population, discussed previously, tend to verify this assertion.

Necessary training to make the Apache employable seems to include a need for language instruction. In terms of communication, however, skills training programs for occupations that might be instituted on the reservation are likely to be successful. Job-related skills training without providing for language instruction is not likely to be successful. The extent of Indian language use in the home indicates that the individual is likely to lose his efficiency in use of the English language over time. Difficulty, therefore, may be encountered in attempts to provide specific skills training to make the Apache more employable. Attention needs to be devoted to basic educational skills before attempting to provide training for specific occupations.

## Utilization of the Human Resource on the Fort Apache Reservation

The population of the Fort Apache Reservation is not known with certainty although the tribal office keeps a roll for voting purposes. This roll contains 2,684 names of people eligible to vote on tribal matters, but contains more names than there are people on Indian land. Random selection of 686 names of persons aged 16 and over indicated that 544 were on the reservation. On the basis of the sample, the

population 16 years of age or over residing on the Fort Apache Reservation is estimated at 2,166, or 80.7 percent of the total reported on the tribal voting lists.

How extensively is the Fort Apache working-age manpower being utilized? One utilization measure is the labor force participation rate, which indicates the extent to which the population is committed to the labor market. Unemployment rates also indicate the degree of utilization of the population manpower resource. The following sections examine labor force participation rates and unemployment rates. In addition, the general employment and unemployment patterns of the reservation are examined. Some insight into the factors that encourage or discourage utilization of the human resource is provided through the examination of the behavior of various age, sex, and marital groups on the reservation.

## Labor Force Participation

The Indian Manpower Resource Study inquired as to the major work activity of the respondents in the year prior to the survey. The question was intended to discover the percentages of the population

TABLE VII
MAJOR ACTIVITY MOST OF THE YEAR PRIOR TO THE SURVEY

| Activity | Percent |
|---|---|
| Working | 44.1 |
| With a job but not at work | 0.0 |
| Looking for work | 3.4 |
| Keeping house | 19.2 |
| Going to school | 12.3 |
| Unable to work | 18.4 |
| Retired | 0.9 |
| Other | 1.5 |
| TOTAL | 99.8* |

N = 533
* Does not sum to 100 percent due to rounding.

that usually are in the labor force, usually employed, or usually unemployed. The tabulated responses to this question are presented in Table VII. The labor force is comprised of those working, those with

a job but not at work, and those looking for work. Those who were not looking for work because they believe no work is available are not counted as unemployed in this study even though they would have been counted as part of the unemployed labor force by the Bureau of Labor Statistics. A consequence of this might be a substantial rise in employment with no change in the level of unemployment in absolute numbers. As more are employed, expectations may improve and the labor force may grow.

The survey classification reflects the view that people who spent most of the year believing that there was no work available in the community and did not look for work, would be best described as alienated from the labor force. Again, the IMRS questionnaire focuses on activity over the year previous to the survey while the Current Population Survey focuses on the previous month.

It can be noted in Table VII, that about 47 percent of the Fort Apache people responding to the questionnaire are in the labor force. Most of those in the labor force had worked most of the year prior to the survey and are placed in the employed category. About 3.5 percent of the population was unemployed most of the year previous to the survey.

The Fort Apache labor force participation rate of 47.3 percent is considerably below the labor force participation rate of 59.4 percent for the United States. It should be noted that this labor force participation rate compares very favorably with the labor force participation rates that are believed to exist on most of the reservations in the West. Part of the difference between the U. S. labor force participation and the Fort Apache labor force participation rate may be attributed to the differences in the age distributions of the two populations. For example, if the Fort Apache population is distributed by age in such a way that a large part of its population falls in age groups normally characterized by low participation rates, then naturally the Fort Apache labor force participation rate would be expected to be below the U. S. rate. This is exactly the situation as it exists. The 16-19 old age group is characterized by low labor participation rates throughout the United States. Even the 20-39 old Indian age group is characterized by labor force participation rates below those of the 30-69 group for the United States as a whole.

The Fort Apache population is concentrated in the 16-29 age groups as illustrated in Table VIII. While 26.6 percent of the U. S. population 16 years of age or older are in the 16-29 group, 43.7 per-

cent of the Fort Apache population is in this younger group. This suggests that the relative youthfulness of the Fort Apache population contributes to the difference between the U. S. labor force participation rate and the Fort Apache labor force participation rate.

TABLE VIII
AGE DISTRIBUTION: FORT APACHE AND UNITED STATES
(Percent 16 years of age or older)

| Age Group | Fort Apache | U. S. |
|---|---|---|
| 16-19 | 13.8 | 8.7 |
| 20-29 | 29.9 | 17.9 |
| 30-39 | 20.5 | 20.2 |
| 40-49 | 13.2 | 18.6 |
| 50-59 | 8.0 | 14.9 |
| 60-69 | 11.6 | 11.1 |
| 70 and over | 3.1 | 8.5 |
| TOTAL | 100.1* | 99.9* |

N = 554
* Does not sum to 100 percent due to rounding.
Source: U.S. Census of Population, 1960, for U.S. age distribution.

Assuming that the age distribution of the Fort Apache population were the same as for the United States, the Fort Apache labor force participation rate would probably be 49.5 percent. That is, the relative youthfulness of the Fort Apache population is the reason for approximately 2 percent of the population not being in the labor force. On the Fort Apache reservation this amounts to approximately a 1 percent reduction in the size of the labor force. The Fort Apache Reservation, with a population of 2,166, would have more than forty-five additional people on its labor force if the age distribution of its population were the same as the age distribution of the population of the United States in 1960. The age distribution of Indians may differ from that of the United States because of health factors affecting longevity.

The labor force participation rates on the Fort Apache Reservation and the labor force participation rates for the United States merit close attention and are shown in Table IX. The Fort Apache labor force participation rate is below the U. S. rate for every age group and the pattern of Fort Apache rates differs from the pattern of U. S.

rates. On the Fort Apache Reservation, the 16-19 old age group is characterized by the lowest labor force participation rates. The participation rate for the next age group (20-29) is the highest of any age group on the reservation. The consecutive age groups coming after the 20-29 age group exhibit decreasing labor force participation rates.

TABLE IX
CIVILIAN LABOR FORCE PARTICIPATION RATES:
FORT APACHE RESERVATION AND UNITED STATES
(Percent by age group)

| Age Group | Fort Apache | U. S. |
|---|---|---|
| 16-19 | 25.0 | 44.2 |
| 20-29 | 59.4 | 67.0 |
| 30-39 | 57.5 | 70.3 |
| 40-49 | 52.1 | 73.4 |
| 50-59 | 45.5 | 74.2 |
| 60 and over | 25.9 | 29.5 |
| All age groups | 47.3 | 59.4 |

Source: Manpower Report of the President, 1964, for U.S. rates.

The pattern for the United States is characterized by increasing rates throughout the 16-59 age range. Whereas the Fort Apache Indians begin dropping out of the labor force in their thirties, the United States in general is characterized by increasing participation up until the sixties are reached. There is a particularly large difference between the Fort Apache labor force participation rates for people in their forties and fifties and the U. S. rates for these age groups.

Fort Apache labor force participation rates for women are lower than comparable U. S. rates, but the pattern for age groups is similar to that of the United States, as demonstrated in Table X. The greatest difference between female rates on the Fort Apache Reservation and the female rates for the United States is exhibited in the 16-19 age group and the 40-49 age group. Fort Apache women in the 16-19 age group with a rate half of the U. S. rate are less likely to be in the labor force as compared with the same age group of U. S. women. Young women on the Fort Apache Reservation do not enter the labor force to the same extent that U. S. women do. The same can be said for women in their forties. In the United States women tend to re-

TABLE X
FEMALE CIVILIAN LABOR FORCE PARTICIPATION RATES:
FORT APACHE RESERVATION AND UNITED STATES
(Percent by age group)

| Age Group | Fort Apache | U. S. |
|---|---|---|
| 16-19 | 15.9 | 37.4 |
| 20-29 | 42.5 | 49.2 |
| 30-39 | 27.3 | 45.2 |
| 40-49 | 20.6 | 52.2 |
| 50-59 | 37.5 | 55.9 |
| 60 and over | 2.3 | 17.8 |
| All age groups | 25.6 | 41.5 |

Source: Manpower Report of the President, 1964, for U.S. rates.

enter the labor force in their forties. Fort Apache women do not appear to reenter until they reach their fifties. The age pattern of labor force participation rate for women can be summarized as indicating delayed entry into the labor force of young women and delayed reentry of mature women. Fort Apache labor force participation rates for older women are much lower than the comparable rates for the United States.

Labor force participation rates for men on the Fort Apache Reservation are below those for U. S. men as shown in Table XI, but the

TABLE XI
MALE CIVILIAN LABOR FORCE PARTICIPATION RATES:
FORT APACHE RESERVATION AND UNITED STATES
(Percent by age group)

| Age Group | Fort Apache | U. S. |
|---|---|---|
| 16-19 | 37.5 | 51.4 |
| 20-29 | 75.3 | 88.0 |
| 30-39 | 86.2 | 97.8 |
| 40-49 | 79.5 | 96.3 |
| 50-59 | 50.0 | 92.3 |
| 60 and over | 52.6 | 44.2 |
| All age groups | 68.2 | 79.7 |

Source: Manpower Report of the President, 1964, for U.S. rates.

differences are below those experienced in other Southwest Indian communities. Fort Apache male labor force participation rates are highest for men in the 30-39 year old age group. Rates for both the younger and older age group are lower. This pattern on the Fort Apache Reservation is similar to the pattern for the United States. One noticeable difference between the Fort Apache participation rate pattern and the U. S. pattern is the large difference between the Fort Apache male rate for men in their fifties and the comparable U. S. rate. The data suggest that Fort Apache males withdraw from the labor force at a relatively early age.

### Reason for Not Entering the Labor Force

More than half of the Fort Apache population 16 years of age or over is not in the labor force. This group is defined as those not usually working and not looking for work. Individuals not in the labor force were asked why they did not look for work, and a number of possible reasons were suggested to the respondents. The reasons given for not seeking employment are presented in Table XII. It should be noted that respondents were permitted to give more than one reason for not seeking work.

TABLE XII

REASONS GIVEN FOR NOT SEEKING EMPLOYMENT

| Reason | Percent of Those Not in Labor Force* |
|---|---|
| Believes no work available | 15.2 |
| Couldn't find work | 10.0 |
| Lacks necessary schooling, training, or experience | 16.1 |
| Employers think too young or too old | 15.2 |
| Personal handicap | 7.1 |
| Can't arrange for child care | 13.7 |
| Family responsibilities | 19.0 |
| In school or other training | 9.5 |
| Ill health or physical handicap | 25.6 |
| Other | 13.7 |
| Don't know | 13.7 |

N = 211

* Does not sum to 100 percent due to multiple responses.

The most frequently mentioned reason was related to health and physical handicaps. About 25 percent of the people responding to the question stated that they did not look for employment because of ill health or a physical disability. Men and women giving this reason were of about equal number. Table XIII reflects the age groups of respondents not in the work force. Of the females responding, 88.9 percent were 40 years of age or older and 74.1 percent were 50 years of age or older. Of the men responding, 89.3 percent were 40 years of age or over and 67.9 percent were 50 years of age or older. Older Indians giving such a response may refer to ill health or physical disabilities reflecting inadequate diets over the years or to the physically demanding nature of work to be performed—they may consider the jobs too strenuous.

TABLE XIII

AGE DISTRIBUTION OF PEOPLE WHO WERE NOT LOOKING FOR WORK DUE TO ILL HEALTH OR PHYSICAL DISABILITY

| Age Group | Percent Females | Percent Males |
|---|---|---|
| 16-19 | 0.0 | 3.6 |
| 20-29 | 3.7 | 3.6 |
| 30-39 | 7.4 | 3.6 |
| 40-49 | 14.8 | 21.4 |
| 50-59 | 18.5 | 35.7 |
| 60-69 | 48.2 | 21.4 |
| 70-79 | 3.7 | 7.1 |
| 80 and over | 3.7 | 3.7 |
| TOTAL | 100.0 | 100.1* |

N = 27 females; 28 males.

* Does not sum to 100 percent due to rounding.

Another important reason for not seeking employment is that people have family responsibilities or cannot arrange for child care. Of those not seeking work, 19 percent listed family responsibility as a reason for not doing so. The response indicates the lack of desire to leave the reservation to work. Women constituted all but two of the people giving this response, and most of these women are married. In addition to those responding that they did not seek employment because of family responsibility, 13.7 percent listed the inability to arrange for child care as a reason for not seeking employment. Furthermore, age is also an important reason for not seeking employment; of

those not seeking employment, 15.2 percent listed this as a reason. As shown in Table XIV, almost all of these people were below 20 years of age or above 59 years of age. It should be noted that only 5 percent of the total population gave this reason for not seeking employment. Less than 3 percent of the people in the survey 60-69 years of age respondent that they thought they were too old. Less than 2 percent of those under 20 years of age responded that they were too young.

TABLE XIV

AGE DISTRIBUTION OF RESPONDENTS WHO REPLIED THAT THEY WERE TOO YOUNG OR TOO OLD FOR EMPLOYMENT

| Age Group | Percent of Total Responses | Percent of Total Population in Age Group |
|---|---|---|
| 16-19 | 34.3 | 2.0 |
| 20-29 | 0.0 | 0.0 |
| 30-39 | 3.1 | 0.2 |
| 40-49 | 0.0 | 0.0 |
| 50-59 | 0.0 | 0.0 |
| 60-69 | 46.9 | 2.7 |
| 70-79 | 15.6 | 0.9 |
| 80 and over | 0.0 | 0.0 |
| TOTAL | 99.9* | 4.8 |

N = 32

* Does not sum to 100 percent due to rounding.

People may withdraw from the labor market because they feel that the chances of finding a job are very small. This, of course, assumes that they were once attached to it. On the Fort Apache Reservation, 15.2 percent of those not seeking employment responded that the reason for not doing so was that they believed no work was available. This figure is considerably higher than those on other reservations in the survey. Even though employment opportunities are greater on the Fort Apache Reservation than on other reservations in the study, the number of jobs relative to the available labor force is small. This consideration is further reflected by the additional 10 percent of the respondents stating that they were not seeking work because they could not find work. Those not seeking work because they believed no work was available or because they could not find work suggests that they might be encouraged to enter the labor market if the job

situation were more promising. To a large extent they represent the element of the population driven out of the labor market by the lack of economic opportunity.

Of the people not seeking employment, 16.1 percent listed the lack of necessary schooling, training, or experience as a contributing reason. The median education level of people giving this response was eight years as compared to a reservation median of nine years. It would appear that many people listing this reason do have enough education to be employed in the Fort Apache economy. Their failure to participate in the economy is partly a reflection of the lack of opportunity and partly an indication of the lack of information about those work opportunities that do exist. At any rate, many of the people listing this reason for not seeking work could probably be attracted into the labor market if employment opportunities improved. The population does not have the necessary education to compete successfully in a nonreservation labor market.

In summary, there are three important classes of reasons for not seeking employment. Poor health appears to be an important obstacle in the way of better manpower utilization. Whether it is real or imagined, poor health represents an important excuse for not seeking work. The lack of employment opportunities is also a significant factor contributing to the low labor force participation rate. Many people do not look for work, hence do not join in the labor force, because they believe no work is available.

### Employment Experience of Those Not Usually Employed

Those people who were not usually working in the year prior to the survey were asked: "When did you last work at a regular full- or part-time job or business?" Usable responses were received from 224 residents of the Fort Apache Reservation. More than 90 percent of these people did not look for work during the prior year and therefore were not in the labor force. As shown in Table XV, 64.3 percent of those who were not employed during the year prior to the survey have never been employed. An additional 11.6 percent of those not usually working have not worked for five or more years. Thus, 75.9 percent of the people who were not usually working in the year prior to the survey have never worked or have not worked for five or more years. It is obvious that a large portion of the Fort Apache human resource has been isolated from the labor market over a long period

of time. Their lack of participation in the labor market cannot be attributed to short-run factors.

TABLE XV
TIME OF LAST EMPLOYMENT OF THOSE NOT IN LABOR FORCE

| Time | Percent Responding |
|---|---|
| Within past twelve months | 7.1 |
| One to two years ago | 8.5 |
| Two to three years ago | 4.5 |
| Three to four years ago | 2.2 |
| Four to five years ago | 1.8 |
| Five or more years ago | 11.6 |
| Never worked | 64.3 |
| TOTAL | 100.0 |

N = 224

Of the 127 respondents other than students who stated they have never worked, 77.2 percent are women. As expected, married women constituted the largest segment of those females who never worked.

In Table XVI, it is shown that never-married women constitute a surprisingly small portion of the Fort Apache female population that has never worked. Whereas 43 percent of all women who had worked in the year prior to the survey were never married, only 11.2 percent of the women who never worked were never married. A different

TABLE XVI
MARITAL STATUS OF THOSE WHO NEVER WORKED
(Nonstudents)

| Marital Status | Percent Female | Percent Male |
|---|---|---|
| Married | 57.1 | 41.4 |
| Widowed | 24.5 | 17.2 |
| Divorced | 5.1 | 3.5 |
| Separated | 2.0 | 0.0 |
| Never-married | 11.2 | 37.9 |
| TOTAL | 99.9* | 100.0 |

N = 98 females; 29 males.
* Does not sum to 100 percent due to rounding.

marital pattern is exhibited by men who never worked. Never-married men comprise a large portion of the male population that has never worked. While only 16.6 percent of the men who worked in the year prior to the survey were never married, 37.9 percent of the men that never worked were never married. The findings suggest that the absence of family responsibility may be an important explanation of male nonparticipation in the labor market.

Age appears to be related to never working. Females who never worked constitute an older group than all females in the sample as shown in Table XVII. For example, 65 percent of all females in the sample are below 40 years of age. Only 42 percent of the females who never worked are below 40 years of age. Whereas approximately 16 percent of the total female sample is above 59 years of age, 33.7 percent of the women who have never worked are above that age. The same age distribution pattern exists for males.

TABLE XVII
AGE DISTRIBUTION OF THOSE WHO NEVER WORKED

| Age Group | Percent Female | Percent Male |
|---|---|---|
| 16-19 | 8.2 | 10.3 |
| 20-29 | 13.3 | 17.2 |
| 30-39 | 18.4 | 13.8 |
| 40-49 | 18.4 | 17.2 |
| 50-59 | 8.2 | 13.8 |
| 60-69 | 25.5 | 17.2 |
| 70 and over | 8.2 | 10.3 |
| TOTAL | 100.2* | 99.8* |

N = 98 females; 29 males.
* Does not sum to 100 percent due to rounding.

The education level of those who have never worked is not very much different from the general education level of the Fort Apache Reservation. For the reservation as a whole, the median years of school completed is nine. The median education level of those who have never worked is eight years. The eight-year median education level characterizes both the males and the females who have never worked. The median education level of females who were working in the year prior to the survey is ten years. The median education level

of males who were usually working in the year prior to the survey was nine years.

An additional 11.6 percent who were not usually employed in the year prior to the survey responded that they had worked at one time, but not for five years or more. Of these, 63.2 percent are men. All the women in this category are married, and only 12.5 percent of the men have never been married. Table XVIII reveals that of those women who have not been employed for five or more years, 92.9 are in the 20-39 age group. It would appear that the women who have not worked for five or more years are relatively young married women who have not worked because of family responsibilities. The age distribution of men is somewhat different. Of those that have not worked for five or more years, 37.5 percent are 60 years of age or over. It would appear that the males who have not worked for five or more years are older men who have withdrawn from the labor force for reasons other than family responsibilities.

TABLE XVIII

AGE DISTRIBUTION OF THOSE NOT EMPLOYED FOR FIVE OR MORE YEARS

| Age Group | Percent Female | Percent Male |
|---|---|---|
| 16-19 | 0.0 | 4.2 |
| 20-29 | 42.9 | 8.3 |
| 30-39 | 50.0 | 16.7 |
| 40-49 | 0.0 | 12.5 |
| 50-59 | 0.0 | 20.8 |
| 60-69 | 7.1 | 16.7 |
| 70 and over | 0.0 | 20.8 |
| TOTAL | 100.0 | 100.0 |

N = 14 females; 24 males.

Those respondents who were not usually employed during the year previous to the survey but had been employed at some time in the past were asked why they had left their last job. As indicated in Table XIX, health reasons were most frequently given. Personal factors are also important. Some of the factors were related to conditions in the job market. Completion of a seasonal job was listed as the reason for leaving the last employment by 15.2 percent of those responding. Temporary or nonseasonal job completion and unsatisfactory work conditions were also listed as reasons for leaving the last

employment. The people in these three categories have left the labor market because of labor market conditions. Some of them could probably be attracted back into the labor market if employment conditions improved.

TABLE XIX
REASON FOR LEAVING LAST JOB

| Reason | Percent Responding |
|---|---|
| Personal, family or school | 21.5 |
| Health | 25.3 |
| Retirement or old age | 5.1 |
| Seasonal job completed | 15.2 |
| Slack work or business conditions | 0.0 |
| Temporary nonseasonal job completed | 5.1 |
| Unsatisfactory work conditions | 7.6 |
| Other | 20.3 |
| TOTAL | 100.1* |

N = 79
* Does not sum to 100 percent due to rounding.

## Unemployment

As already noted, the first question on the Indian Manpower Resource Study questionnaire inquires: "What were you doing most of last year?" The question was formulated in this way in order that a respondent's attitude toward the labor market could be ascertained. In effect, the question reveals the respondent's perception of his involvement in the labor force. The survey staff recognized that a person working two or three months could conceptualize himself as being usually employed most of the year. Such a person may be only a part-time participant in the labor market. He may be responding that when he wanted to be employed, he was employed. The question was directed more toward labor force participation than it was toward employment. Other questions permit a detailed probe into the work experience of the respondents.

Respondents' activities during the past year permit an estimate of the level of unemployment. On the basis of the question, the overall unemployment rate is estimated at 7.3 percent over the year. This is roughly twice the national and state rates. More than three-quarters of all those classified as unemployed were men. The unemployed

males were dispersed over all age groups. No pattern of unemployment rates by age group can be ascertained. One interesting characteristic of the unemployed was that 45 percent of the group had never been married. The educational characteristics of the unemployed do not differ greatly from the employed group.

The foregoing analysis suggests that unemployment is not a major problem on the Fort Apache Reservation, but this judgment may be overly hasty and incorrect. For the Fort Apache Reservation, unemployment rates calculated on the basis of the year, while technically correct, do not reflect the extent of underutilization. The concept of an unemployment rate based on the survey week as defined in this study may, in fact, be meaningless on the Fort Apache Reservation. Employment is primarily seasonal or irregular. People apparently enter and leave the labor force at frequent intervals. This behavior can be attributed to cultural factors as well as the working of the Fort Apache economy and labor market.

An indication of the instability of labor market participation is revealed by other questions in the questionnaire. For example, the question seeking the amount of work performed last year revealed that 301 of the respondents worked one month or more in the year

TABLE XX
ACTIVITY OF THE PREVIOUS MONTH

| Activity | Percent |
|---|---|
| Working (including farming) | 50.5 |
| With a job but not working | 2.3 |
| Looking for work | 11.7 |
| Keeping house | 8.7 |
| Going to school | 18.1 |
| Unable to work | 5.7 |
| Retired | 0.0 |
| Other | 3.0 |
| TOTAL | 100.0 |

N = 299

previous to the survey. These in turn were asked about their activity during the month prior to the survey and their responses are reported in Table XX. As can be see, only 151 people replied that they worked most of the month prior to the survey. The unemployed for

the month previous to the survey was forty-two. When the period for determining labor market activity was shifted from one year to one month, the labor force went down by 26.9 percent and unemployment went up by 41 percent. This comparison is indicative of the volatile nature of tribal labor force participation. Labor force participation and unemployment vary over the year. A large number of people who regard themselves as being regular participants in the labor market apparently withdraw from time to time. These findings are consistent with other findings about the employment of the residents of the Fort Apache Reservation.

## Underemployment

Employment on the Fort Apache Reservation is not likely to be year-round employment. As shown in Table XXI, only 44.2 percent

TABLE XXI
USUAL TYPE OF EMPLOYMENT

| Type of Employment | Percent of Workers |
|---|---|
| Year-round | 44.2 |
| Seasonal | 28.9 |
| Irregular | 26.9 |
| TOTAL | 100.0 |

N = 301

responded that they worked year-round. The incidence of seasonal and irregular employment was high. As demonstrated in Table XXII, seasonal workers were most likely to be employed during the spring.

TABLE XXII
DISTRIBUTION OF SEASONAL EMPLOYMENT

| Season | Percent of Seasonal Workers Employed |
|---|---|
| Spring | 39.0 |
| Winter | 13.6 |
| Fall | 27.1 |
| Summer | 20.3 |
| TOTAL | 100.0 |

N = 59

Spring employment reflects the nature of the tourist season as well as the relatively greater activities in logging, cattle herding, and related work.

When the respondents were asked how many months they worked in the year prior to the survey, 45.6 percent responded that they did no work at all (Table XXIII). Only 18.7 percent of the respondents worked ten months or more. The low level of employment for ten to twelve months is indicative of the low level utilization and low labor force participation.

Only 18.7 percent of the population worked ten to twelve months. Another 18.8 percent worked less than four months. It would appear that the people who respond that they are usually employed, regard employment of four to six months as constituting the normal work year. Other evidence suggests that when the Indians are not employed, they drop out of the labor force; thus, they are not counted as being unemployed.

The residents of the Fort Apache Reservation in the 16-19 year old group comprise a very small percentage of those that worked more than three months. Table XXIV demonstrates that most of the people in the younger group work three months or less. Fifty-four percent of those that work ten to twelve months are between the ages

TABLE XXIII

DISTRIBUTION OF PEOPLE BY MONTHS WORKED AND SEX

| Months Worked | Percent of Population | Percent Female | Percent Male |
|---|---|---|---|
| 0 | 45.6 | 65.4 | 26.4 |
| 1 - 3 | 18.8 | 16.9 | 20.7 |
| 4 - 6 | 10.0 | 6.3 | 13.6 |
| 7 - 9 | 6.9 | 3.7 | 10.0 |
| 10 - 12 | 18.7 | 7.7 | 29.3 |
| TOTAL | 100.0 | 100.0 | 100.0 |

N = 272 females; 280 males.

of 30 and 49. Table XXIV also reveals the importance of the 20-39 age group. The young and the old do not constitute a major portion of those employed more than three months.

The number of months worked is related to marital status. More than 80 percent of all married females work three months or less.

TABLE XXIV
AGE DISTRIBUTION BY NUMBER OF MONTHS WORKED
(Percent)

| Age Group | Months Worked 0 | 1-3 | 4-6 | 7-9 | 10-12 |
|---|---|---|---|---|---|
| 16-19 | 14.7 | 32.7 | 3.6 | 5.3 | 1.0 |
| 20-29 | 19.4 | 42.3 | 52.7 | 26.3 | 32.0 |
| 30-39 | 16.7 | 12.5 | 21.8 | 28.9 | 34.0 |
| 40-49 | 15.5 | 2.9 | 9.1 | 13.2 | 20.1 |
| 50-59 | 8.7 | 5.8 | 3.6 | 21.1 | 5.8 |
| 60-69 | 18.3 | 3.8 | 9.1 | 5.3 | 6.8 |
| 70 and over | 6.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 99.9* | 100.1* | 99.7* |
| Number in each group | 252 | 104 | 55 | 38 | 103 |

* Does not sum to 100 percent due to rounding.

Table XXV reveals that only a small portion of married women worked ten to twelve months. Of the married males in the survey, 46 percent worked ten to twelve months, which means a rather large

TABLE XXV
DISTRIBUTION OF MONTHS WORKED FOR MARRIED FORT APACHE

| Months Worked | Percent Female | Percent Male |
|---|---|---|
| 0 | 72.4 | 18.6 |
| 1 - 3 | 10.3 | 9.9 |
| 4 - 6 | 7.6 | 14.3 |
| 7 - 9 | 1.4 | 11.2 |
| 10 - 12 | 8.3 | 46.0 |
| TOTAL | 100.0 | 100.0 |

N = 145 females; 161 males.

number of married males worked less than ten months. As indicated in Table XXVI, neither never-married males or females are likely to be employed for more than three months.

The situation on the Fort Apache Reservation reflects income sharing. Even though most married females work three months or less,

TABLE XXVI
DISTRIBUTION OF MONTHS WORKED FOR
NEVER-MARRIED FORT APACHE

| Months Worked | Percent Female | Percent Male |
|---|---|---|
| 0 | 42.1 | 32.6 |
| 1 - 3 | 36.1 | 42.7 |
| 4 - 6 | 7.2 | 11.2 |
| 7 - 9 | 4.8 | 7.9 |
| 10 - 12 | 9.6 | 5.6 |
| TOTAL | 99.8* | 100.0 |

N = 83 females; 89 males.
* Does not sum to 100 percent due to rounding.

Table XXVII shows that almost all of the males and more than half of the females that worked ten to twelve months are married. Females in the never-married group tend to be more successful than males in obtaining relatively stable work. This may reflect the nature of most government jobs, which require clerical skills. Male opportunities in government work appear to be more limited.

TABLE XXVII
MARITAL STATUS OF THOSE WHO WORKED TEN TO TWELVE MONTHS

| Marital Status | Percent Female | Percent Male |
|---|---|---|
| Married | 57.1 | 90.2 |
| Widowed | 0.0 | 0.0 |
| Divorced | 4.8 | 1.2 |
| Separated | 0.0 | 1.2 |
| Never-married | 38.1 | 6.1 |
| Info. not available | 0.0 | 1.2 |
| TOTAL | 100.0 | 99.9* |

N = 103
* Does not sum to 100 percent due to rounding.

## Hours Worked

When the residents of the Fort Apache Reservation are employed, they generally work 35 hours per week or more. Table XXVIII illustrates that only 10 percent of the employed usually work less than

TABLE XXVIII
HOURS PER WEEK USUALLY WORKED BY EMPLOYED FORT APACHE

| Hours | Percent of Total |
|---|---|
| 1 - 14 | 3.3 |
| 15 - 29 | 1.9 |
| 30 - 34 | 5.3 |
| 35 - 39 | 5.0 |
| 40 | 65.8 |
| 41 - 48 | 12.0 |
| 49 - 59 | 2.0 |
| 60 or more | 4.7 |
| TOTAL | 100.0 |

N = 301

35 hours. Nearly 66 percent work the standard 40 hours per week. Another 19 percent are required to work more than the standard workweek. Nearly 5 percent revealed that their jobs required 60 or more hours per week. As shown in Table XXIX, 40.6 percent of those

TABLE XXIX
REASONS FOR WORKING 35 HOURS OR LESS

| Reason | Percent of Those Working 35 Hours or Less |
|---|---|
| Slack work | 0.0 |
| Material shortage | 6.3 |
| Plant or machine repair | 3.1 |
| Could only find part-time work | 15.6 |
| Labor dispute | 0.0 |
| Bad weather | 3.1 |
| Own illness | 0.0 |
| Too busy with housework, school, business, personal, etc. | 15.6 |
| Did not want full-time work | 3.1 |
| Full time work under 35 hours | 40.6 |
| Other reason | 12.5 |
| TOTAL | 99.9* |

N = 32
* Does not sum to 100 percent due to rounding.

who worked less than 35 hours per week did so because their full-time work is less than 35 hours. Another 15.6 percent are not working full time because of other commitments such as housework or school. Still another 15.6 percent could only find part-time employment. The indication is that many individuals would work more hours if the work were available. The responses of the majority working fewer than 35 hours per week indicates these hours are not voluntarily sought.

*Looking for Work.* Of those who did no work at all during the year previous to the survey, 12.8 percent looked for employment at some time. Looking for work, however, may not have been their primary activity during the year. Included in the group looking for work, for example, could be housewives whose primary activity was keeping house, but who looked for a job at some time. Table XXX shows that 3.6 percent of those that looked for work sought part-time work only; however, 7.6 percent desire full-time work. Another 1.6 percent would have been satisfied with either. Generally, full-time work is desired over part-time, but the willingness to accept either indicates a lack of on-reservation opportunities.

TABLE XXX
PERCENTAGE OF THOSE NOT WORKING WHO ARE LOOKING FOR WORK
(By type of work)

| Category | Percent |
|---|---|
| Full-time | 7.6 |
| Part-time | 3.6 |
| Both | 1.6 |

N = 249

Those looking for work on the Fort Apache Reservation relied heavily on the Arizona State Employment Service for job information as revealed in Table XXXI. The Arizona State Employment Service maintains a full-time office in Whiteriver and it is staffed by a well known resident of the reservation. Friends or relatives also constituted an important source of information about the job market. Want ads were not an important source of information to the people looking for work. Distance away from the reservation of private employment agencies reflects a lack of use of such facilities. Indians do seek work from employers directly.

Those looking for work were asked why they were unsuccessful in their efforts. Table XXXII indicates that the most frequently men-

tioned reason was the lack of of availability of jobs. More than half of those looking for work listed this as a reason. The lack of education or training is also an important reason as is the transportation prob-

TABLE XXXI
SOURCES CONTACTED ABOUT WORK INFORMATION BY THOSE LOOKING FOR WORK IN PREVIOUS YEAR

| Source Contacted | Percent |
|---|---|
| Bureau of Indian Affairs | 21.9 |
| Arizona State Employment Service | 62.5 |
| Private employment service | 18.8 |
| Employer directly | 21.9 |
| Friends or relatives | 37.5 |
| Placed or answered ads | 9.4 |
| Other | 12.5 |

N = 59

lem. Transportation is important on the Fort Apache Reservation because employment is located in communities such as Whiteriver and McNary, but the population is dispersed over the large reservation.

TABLE XXXII
REASONS FOR DIFFICULTY IN FINDING A JOB BY THOSE NOT WORKING BUT LOOKING FOR WORK

| Reason | Percent* |
|---|---|
| No jobs available | 53.1 |
| Age—too old, too young | 6.3 |
| Lack necessary skill or experience | 15.6 |
| Lack of necessary education or training | 31.2 |
| Health problems, physical disability | 15.6 |
| Personal problems—police record, bad debts | 15.6 |
| Transportation | 25.0 |

N = 52
* Does not sum to 100 percent because of multiple responses.

## Industry and Occupational Experiences

The distribution of White Mountain Apaches into standard industry classes and in turn into specific occupational categories is

based on answers to a series of questions. Respondents were asked to furnish information revealing the type and nature of work performed on all jobs during the past five years. In addition, they were asked to identify their employer as well as the type and nature of his business. Information on tasks performed previous to the past five years was not requested since it was considered that any skills required to do the work would largely have to be relearned prior to performing again in the same capacity.

### Industry Experiences

On the basis of 350 usable responses, it was found that the single most important industry providing work experience to the White Mountain Apache was government. Manufacturing and services followed government in importance. Table XXXIII provides the basis for assigning relative importance to the standard industrial classifications.

TABLE XXXIII
FORT APACHE EMPLOYMENT BY INDUSTRY CLASS
(Number and percent)

| Code | Industry | Number | | Percent of Total |
|---|---|---|---|---|
| | AGRICULTURE, FORESTRY, AND FISHERIES | | | |
| 01 | Agricultural production | 19 | | |
| 07 | Agricultural services and hunting and trapping | 2 | | |
| 08 | Forestry | 9 | | |
| | Subtotal | | 30 | 8.6 |
| | CONTRACT CONSTRUCTION | | | |
| 15 | Building construction—general contractor | 4 | | |
| 16 | Construction other than building—general contractor | 1 | | |
| 17 | Construction—special trade contractors | 1 | | |
| | Subtotal | | 6 | 1.7 |
| | MANUFACTURING | | | |
| 23 | Apparel and other finished products made from fabrics and similar materials | 1 | | |
| 24 | Lumber and wood products, except furniture | 69 | | |
| | Subtotal | | 70 | 20.0 |
| | TRANSPORTATION, COMMUNICATION, ELECTRIC, GAS, AND SANITARY SERVICES | | | |
| 41 | Local and suburban transit and interurban passenger transportation | 1 | | |
| | Subtotal | | 1 | 0.3 |

TABLE XXXIII (continued)

| Code | Industry | Number | | Percent of Total |
|---|---|---|---|---|
| | WHOLESALE AND RETAIL TRADE | | | |
| 50 | Wholesale trade | 1 | | |
| 53 | Retail trade—general merchandise | 14 | | |
| 55 | Automotive dealers and gasoline service stations | 4 | | |
| 58 | Eating and drinking places | 3 | | |
| | Subtotal | | 22 | 6.3 |
| | SERVICES | | | |
| 70 | Hotels, rooming houses, camps, and other lodging places | 20 | | |
| 72 | Personal services | 1 | | |
| 73 | Miscellaneous business services | 2 | | |
| 75 | Auto repair, service and garages | 2 | | |
| 76 | Miscellaneous repair services | 1 | | |
| 79 | Amusement and recreation services, except motion pictures | 4 | | |
| 80 | Medical and other health services | 2 | | |
| 82 | Educational services | 3 | | |
| 86 | Nonprofit membership organizations | 6 | | |
| 88 | Private households | 11 | | |
| | Subtotal | | 52 | 14.9 |
| | GOVERNMENT | | | |
| 91 | Federal government | 132 | | |
| 92 | State government | 2 | | |
| 93 | Local government | 35 | | |
| | Subtotal | | 169 | 48.3 |
| TOTAL | | | 350 | 100.1* |

N = 350

* Does not sum to 100 percent due to rounding.

Slightly less than one-half (48.3 percent) of Apache work experience over the past five years has been provided by three levels of government. The federal government is by far the most important source in the category, providing about 77 percent of all experiences of the classification. State government is relatively unimportant in providing jobs to the White Mountain Apache. Local government follows federal in importance, and it provides most of the remaining ex-

periences of the population in public employment. Local government employment jobs are provided solely by the tribe itself.

Manufacturing follows government in industry experience importance. Twenty percent of industry experience has been provided largely by the manufacturing of lumber and wood products. Furniture making is not included in the classification. The experiences revealed in lumber and wood production reflect the location of rich forests on tribally owned land. There has been little work experience for the population in manufacturing outside of lumber in the past five years.

Services follow government and manufacturing in industry experience importance. Nearly 15 percent of the population have experience as domestics, or in amusements and recreation, and also in hotels and lodging places. Hotels and lodging services are important on the Fort Apache Reservation because of tribal efforts in developing successful recreational facilities.

Domestic services provided to private households is also an important source of experience for a significant number of workers. The remaining categories under the general services label are individually of lesser importance than the two mentioned.

Nearly 9 percent of all work experience is in agriculture, forestry, and fisheries. The natural resources of the reservation make such endeavors almost obvious. However, total Indian experiences in such industries are somewhat limited in that tasks are largely confined to fire crews and forest conservation. Game wardens work for the tribe to police fishing and hunting permits related to the Indian efforts in developing recreational facilities.

Wholesale and retail trade accounts for 6.3 percent of tribal work experiences. Trading posts provide the largest share of such experiences followed by restaurants and gasoline service stations.

The contract construction and transportation industries provide few of the population's work experiences. Slightly less than 2 percent have worked in the construction industry either currently or in the past five years.

Much less than 1 percent of respondents revealed experiences in the transportation, communications, electric, gas, and sanitary services category. These industries have not provided much work experience for Fort Apache Indians.

There are many occupations within the industry classes in which the Indians have work experience. The particular occupations identi-

fied provide further insights into the extent of work experiences of the past, which may be of future use.

## Occupational Experiences

The relatively recent occupational experiences of the population are revealed in Table XXXIV. Service occupations are more prevalent among the White Mountain Apache Tribesmen, and farm and structural work occupations follow in importance. The remaining categories of Table XXXIV are also important in terms of occupational experiences for the tribal members.

TABLE XXXIV
FORT APACHE EMPLOYMENT BY OCCUPATIONAL TITLE
(Number and percent)

| Code | Description | Number | | Percent of Total |
|---|---|---|---|---|
| | PROFESSIONAL, TECHNICAL, AND MANAGERIAL OCCUPATIONS | | | |
| 04 | Occupations in life sciences | 2 | | |
| 07 | Occupations in medicine and health | 3 | | |
| 09 | Occupations in education | 4 | | |
| 16 | Occupations in administrative specialization | 6 | | |
| 18 | Managers and officials, not elsewhere classified | 6 | | |
| 19 | Miscellaneous professional, technical, and managerial occupations | 8 | | |
| | Subtotal | | 29 | 8.5 |
| | CLERICAL AND SALES OCCUPATIONS | | | |
| 20 | Stenography, typing, filing, and related occupations | 9 | | |
| 21 | Computing and account—recording occupations | 4 | | |
| 23 | Information and message distribution | 1 | | |
| 24 | Miscellaneous clerical occupations | 1 | | |
| 28 | Salesmen, salespersons—commodities | 1 | | |
| 29 | Merchandising occupations, except salesmen | 9 | | |
| | Subtotal | | 25 | 7.3 |
| | SERVICE OCCUPATIONS | | | |
| 30 | Domestic service occupations | 25 | | |
| 31 | Food and beverage preparation and service | 16 | | |
| 32 | Lodging and related service occupations | 5 | | |
| 35 | Miscellaneous personal services | 19 | | |

TABLE XXXIV (continued)

| Code | Description | Number | | Percent of Total |
|---|---|---|---|---|
| 36 | Apparel and furniture services | 2 | | |
| 37 | Protective service occupations | 6 | | |
| 38 | Building and related service occupations | 28 | | |
| | Subtotal | | 101 | 29.5 |
| | FARMING, FISHERY, FORESTRY, AND RELATED OCCUPATIONS | | | |
| 40 | Plant farming occupations | 36 | | |
| 41 | Animal farming occupations | 3 | | |
| 42 | Miscellaneous farming and related occupations | 7 | | |
| 43 | Fishery and related occupations | 1 | | |
| 44 | Forestry occupations | 7 | | |
| | Subtotal | | 54 | 15.8 |
| | PROCESSING OCCUPATIONS | | | |
| 52 | Processing of food, tobacco, and related products | 1 | | |
| | Subtotal | | 1 | 0.3 |
| | MACHINE TRADE OCCUPATIONS | | | |
| 61 | Metal working occupations, not elsewhere classified | 1 | | |
| 66 | Wood machining operations | 23 | | |
| 68 | Textile occupations | 1 | | |
| 69 | Machine trade occupations, not elsewhere classified | 1 | | |
| | Subtotal | | 26 | 7.6 |
| | BENCH WORK OCCUPATIONS | | | |
| 70 | Occupations in fabrication, assembly, and repair of metal products, not elsewhere classified | 1 | | |
| 74 | Painting, decorating, and related occupations | 1 | | |
| 78 | Occupations in fabrication and repair of textiles, leather and related products | 2 | | |
| | Subtotal | | 4 | 1.2 |
| | STRUCTURAL WORK OCCUPATIONS | | | |
| 81 | Welders, flame cutters and related occupations | 3 | | |
| 84 | Painting, plastering, waterproofing, cementing, and related occupations | 9 | | |
| 85 | Excavating, grading, paving, and related occupations | 16 | | |
| 86 | Construction occupations, not elsewhere classified | 21 | | |
| 89 | Structural work occupations, not elsewhere classified | 3 | | |
| | Subtotal | | 52 | 15.2 |

TABLE XXXIV (continued)

| Code | Description | Number | Percent of Total |
|---|---|---|---|
| | MISCELLANEOUS OCCCUPATIONS | | |
| 91 | Transportation occupations, not elsewhere classified | 15 | |
| 92 | Packaging and materials handling occupations | 13 | |
| 94 | Occupations in logging | 22 | |
| | Subtotal | 50 | 14.6 |
| TOTAL | | 342 | 100.0 |

N = 342

Services account for 29.5 percent of all occupational experiences. A wide range of occupations fall within the greater services category, but most of them are best described as low-level type of tasks. The ones mentioned most frequently were domestic gardeners, hospital attendants, porters, and janitors. In addition many have relatively recent experiences as cooks, bartenders, and nursemaids. It is obvious that most of the service experiences relate to the tourist and recreational industry developing on and near the reservation.

Nearly 16 percent revealed experience in occupations relating to farming, fishery, and forestry. By far the most important occupational experience of all in the category was that of industrial groundskeeper. This group of workers have responsibilities generally to maintain recreational sites. General farm hands are not plentiful among the Fort Apache Indians. Very few continue to engage in such work. A few did reveal that they had experience in such occupations as irrigator, agricultural sprayer, reptile farmer, and tree pruner.

Structural work occupations were sources of extensive work (15.2 percent) experience for the tribe. Carpentry, pipe fitting, and roustabouts are prevalent in the construction occupations. In addition, excavating, grading, and paving of roads are areas of significant experience among the population. A number of the reservation Indians also have experience in welding and painting.

Occupational experiences in miscellaneous occupations were revealed by nearly 15 percent of respondents. Predominant among these were service station attendants, loggers, and loaders in both logging and paper operations.

Table XXXIV indicates that approximately 8 percent revealed experiences in professional, technical, and managerial occupations.

Occupations reported range from elementary school teacher and fire assistants to recreation leaders; most of the experiences in the category were obtained on the reservation.

Machine trade occupations are generally in wood working operations. Nearly all the work experiences in this category relate to sawmill operations on the reservation. Work histories in this category indicate that nearly 8 percent of the population has worked at such tasks within the last five years.

Clerical and sales occupational experience has been indicated by 7 percent. Sales clerks in general stores and office related work such as secretaries, typists, and clerk bookkeepers predominate. The relatively large number of stores in the main Indian towns where most of the local and federal government functions are carried out account for most clerical and sales-related experiences. Some attain levels of work above the routine tasks associated with office chores; that is, some administrative responsibilities were revealed.

Bench work and processing occupations combined account for about 1 percent of current and past work experiences. Included in the category are such skills as sewing machine operators and seamstresses.

In summary, it is obvious from Table XXXIII and XXXIV that the Fort Apache Reservation work experiences are concentrated into a few predominant industries. Occupational experiences also reflect the predominance of industries such as those in services, government, and lumbering that prosper on and near tribal land. Agricultural work has not predominated the work history of the respondents over the past five years, which reflects the developing nature of the reservation. The range of work histories reflects the importance of tribal endeavors in tourism and recreation as well as the efforts of the Bureau of Indian Affairs and Indian Health Service to provide services.

*Location of Present Job.* The importance of industry diversification on the reservation is revealed by responses to the question: "Is your present (or usual) job located on your reservation?" Ninety-two percent of Apache work is located on the reservation. Only 8 percent traveled off the reservation to perform their usual tasks. Such response lends support to the contention that White Mountain Apaches are able to remain on tribal land because of the range of available opportunities for at least some family members permitting income sharing. Others withdraw from the labor force in order to stay on the Fort Apache reservation.

*Source of Learning Present Job.* The location and types of industries and occupations have been identified. In addition, it has been learned that the median years of education completed by both males and females are nine. Those usually working fare better. Most of the jobs performed on and off the reservation were learned by employer instruction on the job (Table XXXV). Approximately 75 percent of

TABLE XXXV
SOURCE OF TRAINING TO PERFORM JOB

| Source | Percent |
|---|---|
| Taught by employer | 74.7 |
| Government training program | 9.1 |
| Armed services | 0.7 |
| Formal schooling | 6.1 |
| Other | 9.5 |
| TOTAL | 100.1* |

N = 296
* Does not sum to 100 percent due to rounding.

all occupations reported were taught by employers. The nature of occupations reveals that most work experiences over the past five years have been with a limited number of employers and the tasks performed have usually been learned on the job. Most tasks were in the common labor category with low-level labor force requirements.

Approximately 9 percent identified government training programs as sources of learning their usual jobs. Training such as heavy equipment operation has been provided. Relocation of Indians to other areas for training has been undertaken by some. Nearly 1 percent identified training in the Armed Forces as the source of learning their usual jobs. Military experiences, however, were not importantly carried over into civilian tasks. It is possible that higher-skill jobs could be performed, if available. The lack of jobs is reflected in the lack of carry-over from the military to civilian endeavors.

Self-taught skills and instruction from friends and relatives were identified by 9 percent as the methods of learning their jobs. Much of this is due to the undertakings of the tribe itself in lumbering and recreation. The job as the source of learning tasks is highly valuable.

Six percent revealed that their formal training was the most important source of learning present jobs. Most formal training that was

carried over into employment reflects experiences in secretarial types of jobs and those related to teaching school and social welfare. Formal training to perform such tasks is a prerequisite to employment.

Three percent of respondents hold union cards. Organization of tribal Indians into unions is not great. This both reflects the location of work performed and heavy concentration into governmental work. It will be recalled that most of the workers work on the reservation and in tribally or federally administered operations. Little union organizational attention has been directed toward such workers in the past. Little work is performed off the reservation where the Indian would be geographically accessible to the union membership.

Very little if any training for occupations has come from union-administered sources. Most training is performed by employers, making union training largely unnecessary. Apache workers are generally isolated and insulated from labor force competition. This makes union membership less necessary and desirable than would be the case if Indians competed for scarce jobs on the open labor market.

*Skills Training Without Subsequent Job Experience.* Some of the tribesmen have undertaken skills training, but have been unsuccessful in finding work that would enable them to utilize those skills; 12 percent of 545 respondents stated this was their case. However, specification of the training received did not indicate possession of highly marketable skills. Most merely revealed that they had worked in a particular job in the past and for some reason could no longer obtain work at the same job. For example, some listed such training as sawmill worker, cook, and hospital aid as skills they possessed but could not utilize on the job. A few, however, do have knowledge of skills generally in short supply in some areas. Such skills as those of plumber, electrician, and nurse were cited. The lack of desire to move to off-reservation areas to obtain work where such skills may be utilized renders these persons increasingly incapable of maintaining their competencies. The lack of use will bring on a deterioration of abilities. Incentives to move are necessary since it is obvious the reservation is not developing rapidly enough to absorb them in jobs for which they are trained. Failure to move where jobs are also raises the societal cost of training such persons since no benefits are likely to accrue to the general public investing in their training. Yet, benefits are realized by the tribe if individuals remain on the reservation and ultimately find work.

## Sources of Income

Accessibility to income sources on the part of Fort Apache Reservation residents may influence decisions to participate in the labor force. It is important to review both earned and unearned income in order to learn of the economic ability of Indians to remain on tribal property. In this section, income data are analyzed in terms of amounts received by individuals and families and then by age, sex, and educational attainment level. Income received by individuals relative to family income reveals the extent of income sharing, which permits the population to remain on the reservation as opposed to being forced off for economic reasons. It should be noted that responses to the income questions are based on recall without the aid of records.

### Earned and Unearned Income

Respondents were asked several questions dealing with the extent and source of earned and unearned individual and family income. The answers provided are revealed partially in Table XXXVI. Refinement of the data will be dealt with in detail in succeeding sections.

TABLE XXXVI
INDIVIDUAL AND FAMILY INCOME

| Amount (Dollars) | Individual (Percent) | Family Unadjusted (Percent) | Family Adjusted (Percent) |
|---|---|---|---|
| 0 - 499 | 49.2 | 37.1 | 35.0 |
| 500 - 999 | 17.3 | 15.7 | 14.2 |
| 1,000 - 1,999 | 11.6 | 12.2 | 13.0 |
| 2,000 - 2,999 | 6.6 | 9.0 | 10.2 |
| 3,000 - 4,999 | 7.0 | 10.9 | 11.4 |
| 5,000 - 9,999 | 7.6 | 11.8 | 12.6 |
| 10,000 - and over | 0.8 | 3.2 | 3.7 |
| TOTAL | 100.1* | 99.9* | 100.1* |

N = 502 individual; 466 unadjusted family; 246 adjusted family.
* Does not sum to 100 percent due to rounding.

*Family Income.* In 1964, the Office of Economic Opportunity estimated that 1.5 million families received incomes of under $1,000

annually, before taxes. Three million families received between $1,000 and 1,999, and 4.6 million received annual incomes between $2,000 and 3,130.[3] On the Fort Apache Reservation nearly one-half (49.2 percent) of all individuals responded that their incomes ranged between $0-499 during 1967. Another 17.3 percent received between $500 and 999. Approximately 85 percent received incomes totaling less than $3,000 per year. Median income received by all individuals is between $500 and 999 with the likelihood that it is closer to $500 than 999.

Less than 1 percent receive $10,000 per year or more, but nearly 8 percent reported income between $5,000 and 9,999. Another 7 percent were in the $3,000-4,999 category.

Family income is presented in two categories in Table XXXVI. The first deals with unadjusted data, whereas the second is adjusted. The adjusted column presents family income after deleting responses from several members of the same family. The unadjusted column is biased in that several members from large families were more likely to fall within the sample than was the case with small families. Deletion of multiple family members from the sample in calculating family income corrects the bias toward larger families.

The unadjusted data reveal that over one-half (52.8 percent) of Fort Apache families receive less than $1,000 per year. On an adjusted basis, the percentage falls slightly to 49 percent. The adjusted categories indicate that smaller families fare better economically than large ones. However, it should be noted that White Mountain Apaches have large families with a median of six children per family. In this regard, the unadjusted data appear to provide a better indication of reservation family welfare. The difference in the upper income levels is slight. Three percent of families receive $10,000 per year or more on an unadjusted basis, whereas it is closer to 4 percent when adjustments are made. The income category, $5,000-9,999, reveals a 1 percent difference between the two methods of calculation. The $3,000-4,999 category is roughly the same.

It is obvious that there is substantial income sharing among the relatively stable Fort Apache family members as family income is higher in every category than individual income considered separately. On-reservation stability would not be possible without significant income sharing, given the nature and extent of seasonal employment.

*Non-Money Income.* The Fort Apache Reservation has a climate which could lend itself to non-money supplements to actual dollars

received. In addition, barter may be prevalent on the reservation as a source of livelihood not generally considered by the Indian as income. The question was asked: "Did you receive any non-money income last year?" The questionnaire was structured so as to provide several possible categories of response. The individuals questioned were also permitted to indicate sources other than those provided. Table XXXVII shows the extent and sources of individually generated non-money income.

TABLE XXXVII
NON-MONEY INCOME SOURCES

| Source | Percent |
|---|---|
| Homegrown and consumed agricultural products | 1.1 |
| Homemade clothing | 2.7 |
| Goods exchanged for other goods | 1.1 |
| Other barter sources | 2.0 |

N = 548

Some non-money income is earned on the Fort Apache Reservation; however, it is not extensive, given the low level of family income reported. Roughly 1 percent supplement income by barter. The common impression that Indians generally live predominately in a semi-barter society does not appear to be the case with White Mountain Apaches. Very few attempt to raise their own gardens for consumption purposes; only 1 percent revealed such activity. Two percent did have other sources of non-money income that were generally obtained by hunting and fishing. Nearly 3 percent make their own clothing as a means of supplementing low incomes.

TABLE XXXVIII
MONETARY EQUIVALENT OF NON-MONEY INCOME

| Income (Dollars) | Percent |
|---|---|
| 0 | 94.5 |
| 1 - 499 | 4.7 |
| 500 - 999 | 0.6 |
| 1,000 or over | 0.2 |
| TOTAL | 100.0 |

N = 548

Success in supplementing income was not at all good. Table XXXVIII provides estimates on the monetary equivalent of non-money income sources. Nearly 95 percent made no effort to generate income by barter or on a do-it-yourself basis. Nearly 5 percent estimated their efforts resulted in from $1-499 over the course of the year. Only about 1 percent placed a dollar value on their efforts from $500-999 and less than 1 percent felt they had earned over $1,000.

In summary, it is obvious that Fort Apache residents economically are relatively worse off than American families in general. Median family income for the nation as a whole was $7,436 in 1966.[4] White Mountain Apache families had only attained a median of approximately $1,000 per year by the close of 1967. The median family size of Indians over which the smaller income must be spread is larger.

## Sources of Individual Income

Sources of individual income provide additional insights into the activities of White Mountain Apaches. Incentives to work are affected not only by the extent of income sharing within families, but also by the accessibility of unearned income sources. The desire of the reservation population to refrain from relocating in either adjacent or distant areas is closely related to the ability to obtain income from various types of transfer payments. The question was asked: "What were the sources of income received by you in the last twelve months?" There were seventeen separate categories of possible responses on a yes or no basis. Usable replies numbered 548. Table XXXIX provides the reported sources.

Earnings from a trade is the single most important income category with 37 percent identifying the source. The category includes income from such skills as vocational counselor, elementary teacher, and agricultural superintendent. In addition, unskilled work was considered in the same category; hospital attendants and janitors are representative of some of the income sources. Hourly paid and salaried employment were both treated as earnings from a skill. The diverse types of work available on the reservation account for the importance of the category.

Transfer payments of several types are important for White Mountain Apaches; 59.4 percent receive some assistance. Churches provide significant funds to Indians; a good portion is earmarked for clothing. The unearned income elements include gifts from children,

TABLE XXXIX
SOURCES OF INDIVIDUAL INCOME

| Source | Percent* |
|---|---|
| Gifts from children, relatives, or churches | 17.2 |
| Sales of handicrafts | 6.2 |
| Self-employed income (includes business, farm, trade or professional enterprise) individual or partnership | 13.0 |
| Earnings from a farm, ranch, or other business | 2.6 |
| Earnings from a trade | 36.8 |
| Pensions | 1.8 |
| Assistance payments from Bureau of Indian Affairs | 12.3 |
| Assistance payments from other public or private sources | 20.1 |
| Interest or dividends on personal loans and investments | 3.3 |
| Income from royalties, leases, timber sales, annuities | 0.9 |
| Judgment or settlement funds | 0.6 |
| Sale of property | 12.1 |
| Veterans payments | 3.5 |
| Social Security | 8.0 |
| Unemployment insurance | 5.3 |
| None | 12.6 |
| Other | 2.0 |

N = 548
* Does not sum to 100 percent because of multiple income sources.

relatives, churches, pensions, assistance from the BIA or other sources, and Social Security. Welfare from public and private groups provide income for 20 percent of the population. Gifts from children, churches, or relatives were identified by 17 percent. It is obvious that the ability of the population to stay on Indian land depends upon an extensive welfare system. This is the case despite the relatively wide range of employment opportunities on the reservation. Earned income alone would not permit the population to remain relatively immobile. The low-income levels admitted by respondents reveal the necessity for a variety of unearned sources.

The sale of handicrafts reflects the tribe's efforts to develop a tourism and recreation trade. Six percent are engaged in such activities. These are largely tribal-owned outlets.

Approximately 13 percent receive income from self-employment. Income from investments is also available to some; 3.3 percent responded that interest or dividends on personal loans and investments was received. Sale of property provides income for 12 percent of the population.

Many of the firms on the reservation provide work on a seasonal basis. This is partially reflected in the drawing of unemployment insurance during the past year by 5 percent of the population.

The necessity for income sharing among the people is apparent since 13 percent responded that no income was received from any source during the past year. It is expected that the burden for providing necessities falls upon all members of a family and that each member will participate in the labor force to the extent that opportunities for work are thought available. Responsibility for individuals of working-force age without a single source of income falls upon many for survival.

In short, the Fort Apache Reservation can be described as dependent upon welfare in two respects. The one is a widespread dependence on transfer payments from various sources. The other is a welfare system based on internal income sharing. Regardless of the amount of annual income received and irrespective of the source, it is shared. Only by sharing could the population remain on tribal land when so many work only seasonally or not at all. Even so, the only alternative is to enter the unsheltered labor market to compete for scarce jobs.

A high proportion of people sixteen years of age or over have income. Only 12.1 percent reported that they had no individual sources of income. Women were less likely to have individual income than men. While 8.2 percent of the men reported no income, 19.5 percent of the women had no income. Most people had access to more than one source of individual income. On the average, women had 1.3 income sources. The average number of income sources for men was 1.6, which is slightly higher than that for women. Most individuals have some source of income and many have more than one source.

### Those With No Income

Of the seventy-six residents of the Fort Apache Reservation that had no income during the year prior to the survey, fifty-three were women and twenty-three were men. There are three major explana-

tions for these particular women having no income. It would appear that many of them had family responsibilities; 71.7 percent of the women who had no income listed keeping house as their primary activity during the year prior to the survey. Another 30.2 percent of women with no income reported that they were unable to work, while 17.3 percent reported that they were in school for most of the year prior to the survey. A large percentage of the men (39.1) who were without income in the year prior to the survey were unable to work. An additional 21.7 percent reported that they were enrolled in school. These characteristics of those without income are generally what would be expected for that group.

The age distribution of those females reporting no income is reported in Table XL along with the age distribution for all Fort

TABLE XL
AGE DISTRIBUTION OF FEMALES WITH NO INCOME

| Age Group | Percent of Females with No Income | Percent of All Females in Age Group |
|---|---|---|
| 16-19 | 20.8 | 16.2 |
| 20-29 | 30.2 | 29.4 |
| 30-39 | 20.8 | 20.2 |
| 40-49 | 11.3 | 12.5 |
| 50-59 | 1.9 | 5.9 |
| 60 and over | 15.1 | 15.8 |
| TOTAL | 100.1* | 100.0 |

N = 53
* Does not sum to 100 percent due to rounding.

Apache women. The age distributions are not very different. It would appear that the women with no income tend to be younger than the population in general. This fact is indicated by the relatively high percentage of women with no income in the 16-19 age group.

The age distribution of the Fort Apache males with no income is presented in Table XLI along with the age distribution of all Fort Apache males. The most notable difference in the two distributions presented in Table XLI is the high percentage of males with no income that are in the 16-19 age group. Note also that the percentage of males with no income is low for the 30-49 age group.

TABLE XLI
AGE DISTRIBUTION OF MALES WITH NO INCOME

| Age Group | Percent of Males with No Income | Percent of All Males in Age Group |
|---|---|---|
| 16-19 | 26.1 | 11.4 |
| 20-29 | 26.1 | 30.4 |
| 30-39 | 8.7 | 20.7 |
| 40-49 | 8.7 | 13.9 |
| 50-59 | 13.0 | 10.0 |
| 60 and over | 17.4 | 13.6 |
| TOTAL | 100.0 | 100.0 |

N = 23

### Earnings from a Trade

Earnings from a trade is the most frequently mentioned source of income for the Fort Apache Indian. This was the most frequently mentioned source by men; more than 50 percent of the men reported income from a trade. While income from a trade was not the most frequently mentioned source of income for women, 20.2 percent of women reported such income. It would appear that women are very much less likely to receive income from a trade.

The age distribution of those receiving income from a trade is presented in Table XLII. This table shows that most of the people

TABLE XLII
DISTRIBUTION OF EARNINGS FROM A TRADE
(By sex and age)

| Age Group | Percent of Females | Percent of Males |
|---|---|---|
| 16-19 | 14.6 | 6.2 |
| 20-29 | 45.5 | 35.6 |
| 30-39 | 21.8 | 28.1 |
| 40-49 | 9.1 | 15.1 |
| 50-59 | 7.3 | 8.2 |
| 60 and over | 1.8 | 6.9 |
| TOTAL | 100.1* | 100.1* |

N = 55 females; 146 males.
* Does not sum to 100 percent due to rounding.

receiving this type of income are in the 20-49 age group. In percentage terms, female teen-agers fare better than males. The 20-29 age group for both sexes accounts for the largest percentage of those who receive income from a trade. As the residents of the Fort Apache Reservation get older their access to this source of income diminishes.

### Self-employment and Ownership Income

The respondents were asked if they had any income from a self-employed activity and if they had any income from ownership of a business. The distinction between these two types of income is essentially the distinction between income associated with work and income associated with the ownership of an economic asset. For example, a person could have a proprietory interest in a business and derive income from that business, but take no part in the operation

TABLE XLIII
SELF-EMPLOYMENT INCOME AND INCOME FROM OWNERSHIP
(By sex and age)

| Age Group | Percent of Males with Earnings from Ownership | Percent of Males with Self-employment Income | Percent of Females with Earnings from Ownership | Percent of Females with Self-employment Income |
|---|---|---|---|---|
| 16-19 | 8.3 | 6.7 | 0.0 | 19.2 |
| 20-29 | 16.7 | 42.2 | 0.0 | 46.2 |
| 30-39 | 16.7 | 24.4 | 0.0 | 26.9 |
| 40-49 | 41.7 | 8.9 | 100.0 | 7.7 |
| 50-59 | 8.3 | 15.6 | 0.0 | 0.0 |
| 60-69 | 0.0 | 2.2 | 0.0 | 0.0 |
| 70 and over | 8.3 | 0.0 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 |

N = males: 14 ownership, 45 self-employment; females; 2 ownership; 26 self-employment.

of the business. It is not clear whether interviewers were able to make the distinction clear to the respondent although they were instructed to make an attempt at clarifying the distinction. The pattern of response to the question seems to suggest that the distinction was made clear. Income from ownership was reported by sixteen Fort Apache residents, and income from self-employment was reported by seventy-

one people. Of those with income from ownership, only two were women. As shown in Table XLIII, income from ownership is spread over all age groups, but the 40-49 age group constitutes the largest percentage of people with income from this source.

Of those with self-employed income, forty-five were men and twenty-six were women. As shown in Table XLIII, this income source is dominated by younger people; this is true for both men and women. It would appear that income from ownership accrues to an older group than does self-employment income.

### Income from Handicrafts

Handicrafts are not an important source of income on the Fort Apache Reservation. Only 6.2 percent of the respondents reported income from this source. Of the thirty-four people reporting income from this source, twenty-six were women. While handicraft income is usually associated with older people, this is not the case on the

TABLE XLIV

DISTRIBUTION OF INCOME FROM BIA ASSISTANCE

(By sex and age)

| Age Group | Percent Females | Percent Males |
|---|---|---|
| 16-19 | 20.0 | 9.7 |
| 20-29 | 22.9 | 25.8 |
| 30-39 | 17.1 | 19.4 |
| 40-49 | 17.1 | 16.1 |
| 50-59 | 5.7 | 19.4 |
| 60-69 | 11.4 | 9.7 |
| 70 and over | 5.7 | 0.0 |
| TOTAL | 99.9* | 100.1* |

N = 35 females; 31 males.
* Does not sum to 100 percent due to rounding.

Fort Apache Reservation. Those people with income from this source were spread over all groups. The age distribution of those with income from handicrafts is similar to the age distribution of those with income from a trade.

### Assistance Payments

Assistance payments are one of the major sources of income on the Fort Apache Reservation. The questionnaire permitted the respondent to list assistance payments as being either from the BIA or from other public or private sources. Of the sixty-six people that received assistance from the BIA, thirty-five were women. The importance of assistance to women is well known because of the fact that payments are often made in order that children can be supported. As indicated by Table XLIV and XLV, assistance payments are made to women of all ages.

TABLE XLV
DISTRIBUTION OF INCOME FROM PUBLIC
AND PRIVATE SOURCES OTHER THAN BIA
(By sex and age)

| Age Group | Percent Females | Percent Males |
|---|---|---|
| 16-19 | 19.7 | 14.0 |
| 20-29 | 18.2 | 25.6 |
| 30-39 | 19.7 | 18.6 |
| 40-49 | 13.6 | 11.6 |
| 50-59 | 6.1 | 11.6 |
| 60-69 | 18.2 | 11.6 |
| 70 and over | 4.6 | 7.0 |
| TOTAL | 100.1* | 100.0 |

N = 66 females; 43 males.

* Does not sum to 100 percent due to rounding.

These statistics reflect the broader range of circumstances that place women in a position necessitating assistance payments. A surprisingly large number of young men on the Fort Apache Reservation report that they are receiving assistance payments. More than half of the men receiving assistance are below the age of 50.

### Income from Social Security

Social Security payments were reported by 8 percent of the respondents. Of the forty-four people who reported this type of income, twenty-five were women. The age distribution of those receiv-

ing this type of income is reported in Table XLVI. More than 47 percent of the men receiving income from Social Security were 60 years of age or older. Of the women, 40 percent were 60 years of age or older. This concentration of recipients in the older age groups

TABLE XLVI
DISTRIBUTION OF INCOME FROM SOCIAL SECURITY
(By sex and age)

| Age Group | Percent Females | Percent Males |
|---|---|---|
| 16-19 | 12.0 | 10.5 |
| 20-29 | 16.0 | 21.1 |
| 30-39 | 16.0 | 0.0 |
| 40-49 | 8.0 | 5.3 |
| 50-59 | 8.0 | 15.8 |
| 60-69 | 32.0 | 31.6 |
| 70 and over | 8.0 | 15.8 |
| TOTAL | 100.0 | 100.1* |

N = 25 females; 19 males.
* Does not sum to 100 percent due to rounding.

emphasizes the importance of Social Security as a source of retirement income. The importance of Social Security payments to people in different age groups can be ascertained from Table XLVII. The relatively small percentage of older residents receiving Social Security benefits reflects the isolation of the Fort Apache Reservation from the mainstream of the American economy. Most were probably not attached to firms or industries covered by such benefits in the past.

TABLE XLVII
PERCENTAGE OF WHITE MOUNTAIN APACHES RECEIVING
SOCIAL SECURITY BENEFITS

| Age Group | Percent Females in Each Age Group | Percent Males in Each Age Group |
|---|---|---|
| All age groups | 9.2 | 6.8 |
| 60-69 | 23.5 | 20.0 |
| 70 and over | 22.2 | 37.5 |

N = 25 females; 19 males.

### Other Income Sources

Unemployed insurance payments were received by 5.3 percent of the respondents. Of the twenty-nine people reporting income from this source, only two are women. There does not appear to be any significant pattern of age distribution. Other frequently mentioned sources of income were income from gifts and income from the sale of property. Income from gifts was received by fifty-five women and thirty-eight men in the survey. It is the third most frequently mentioned source of income and may reflect the income-sharing propensity of the residents of the Fort Apache Reservation. Gifts were received by people of all ages, although more than half of the recipients are 30 years of age or younger and approximately 20 percent are 19 years of age or younger. Sale of property was a source of income to many residents of the Fort Apache Reservation. This income tended to accrue to the older respondents.

### Most Frequently Mentioned Sources

One indication of the importance of an income source to a particular age group is the frequency with which the age group mentions

TABLE XLVIII
MOST FREQUENTLY MENTIONED INCOME SOURCE OF FEMALES
(By age)

| Age Group | Most Frquently Mentioned Income Source | Percent of Females in Age Group Receiving Source* |
|---|---|---|
| 16-19 | Other welfare | 29.5 |
| | Gifts | 27.3 |
| 20-29 | Earnings from a trade | 31.3 |
| 30-39 | Other welfare | 23.6 |
| | Earnings from a trade | 21.8 |
| | Gifts | 20.0 |
| 40-49 | Gifts | 35.3 |
| 50-59 | Earnings from a trade | 25.0 |
| | Other welfare | 25.0 |
| | Sale of property | 25.0 |
| 60-69 | Other welfare | 23.5 |
| 70 and over | Other welfare | 33.3 |

* Does not sum to 100 percent due to multiple responses.

the income source. The most frequently mentioned income source for female age groups is presented in Table XLVIII. Earnings from a trade constitutes the most important source of income for the 20-29 age group; however, in the other age groups it is also important. Welfare and income from gifts appear to be equally important. Gifts are important to the younger females, whereas welfare appears to be a major source of income for the older females in the survey.

The pattern is much more clear for Fort Apache males, as shown in Table XLIX. Earnings from a trade predominates all but two age groups. Fort Apache males in the 16-19 age group frequently mention gifts. It is not until the 70 and over group is reached that Social Security and welfare become the sources of income most frequently mentioned by Fort Apache males.

TABLE XLIX
MOST FREQUENTLY MENTIONED INCOME SOURCE OF MALES
(By age)

| Age Group | Most Frquently Mentioned Income Source | Percent of Males in Age Group Receiving Source* |
|---|---|---|
| 16-19 | Earnings from a trade | 28.1 |
| | Gifts | 25.0 |
| 20-29 | Earnings from a trade | 61.2 |
| 30-39 | Earnings from a trade | 70.7 |
| 40-49 | Earnings from a trade | 56.4 |
| 50-59 | Earnings from a trade | 42.9 |
| 60-69 | Earnings from a trade | 33.3 |
| 70 and over | Other welfare | 37.5 |
| | Social Security benefits | 37.5 |

* Does not sum to 100 percent due to multiple responses.

## Income by Education and Sex

Incentive to participate in the labor force is partly related to accessibility to unearned income as noted previously. It is also possible that White Mountain Apaches do not have incentives to work toward higher levels of educational attainment because of the inability to associate educational achievement with higher income. The lack of educational attainment relative to the general population diminishes the ability of the Indian to compete with non-Indians in a competitive labor market.

TABLE L

INCOME BY EDUCATION AND SEX

(Percent)

| | | Income | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Education | Sex | $ 0 | 1-499 | 500-999 | 1000-1999 | 2000-2999 | 3000-4999 | 5000-9999 | 10,000 + | Info. Not Avail. | TOTAL |
| None | M | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.8 |
| | F | 0.0 | 1.1 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.9 |
| 1 | M | 0.0 | 0.7 | 0.0 | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 1.5 |
| | F | 0.0 | 0.7 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 |
| 2 | M | 0.0 | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.4 | 1.2 |
| | F | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 |
| 3 | M | 0.4 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.4 | 1.6 |
| | F | 1.8 | 0.0 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 |
| 4 | M | 0.0 | 1.1 | 0.0 | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.2 |
| | F | 0.7 | 1.5 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 |
| 5 | M | 0.7 | 1.1 | 0.4 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.7 | 3.3 |
| | F | 0.0 | 0.0 | 0.7 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 1.5 |
| 6 | M | 0.0 | 2.9 | 1.1 | 0.7 | 0.0 | 0.4 | 0.4 | 0.0 | 1.4 | 6.9 |
| | F | 1.5 | 1.5 | 2.2 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 6.0 |
| 7 | M | 0.7 | 2.5 | 1.8 | 0.7 | 0.4 | 0.4 | 0.7 | 0.0 | 0.7 | 7.9 |
| | F | 2.2 | 2.6 | 0.7 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 7.0 |
| 8 | M | 2.9 | 4.3 | 1.8 | 1.8 | 1.4 | 1.4 | 1.1 | 0.0 | 0.4 | 15.1 |
| | F | 2.6 | 5.2 | 2.6 | 1.5 | 0.7 | 0.4 | 0.7 | 0.0 | 4.8 | 18.5 |
| 9 | M | 1.8 | 3.2 | 5.0 | 1.4 | 2.1 | 2.1 | 0.7 | 0.4 | 0.7 | 17.4 |
| | F | 3.7 | 7.0 | 1.1 | 0.7 | 0.4 | 0.0 | 0.0 | 0.0 | 2.2 | 15.1 |
| 10 | M | 0.4 | 2.1 | 3.2 | 2.9 | 2.1 | 1.4 | 1.8 | 0.0 | 1.1 | 15.0 |
| | F | 3.3 | 4.0 | 1.8 | 0.7 | 1.1 | 1.1 | 0.4 | 0.0 | 1.8 | 14.2 |
| 11 | M | 1.4 | 3.2 | 1.4 | 0.7 | 0.4 | 0.7 | 1.1 | 0.0 | 0.4 | 9.3 |
| | F | 1.8 | 5.2 | 4.0 | 0.7 | 1.5 | 0.4 | 0.0 | 0.0 | 0.0 | 13.6 |
| 12 | M | 0.0 | 3.9 | 0.7 | 1.4 | 1.1 | 2.5 | 3.2 | 0.7 | 0.0 | 13.5 |
| | F | 1.5 | 4.8 | 0.4 | 1.5 | 0.0 | 0.4 | 1.1 | 0.0 | 0.7 | 10.4 |
| 13 | M | 0.0 | 0.4 | 0.0 | 0.7 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 | 2.2 |
| | F | 0.0 | 0.0 | 0.0 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 |
| 14 | M | 0.0 | 0.4 | 0.0 | 0.4 | 0.0 | 0.4 | 0.4 | 0.0 | 0.0 | 1.6 |
| | F | 0.0 | 0.4 | 0.0 | 0.4 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 1.2 |
| 15+ | M | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.4 |
| | F | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Info. not available | M | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 |
| | F | 0.0 | 0.0 | 0.4 | 0.0 | 0.4 | 0.0 | 0.4 | 0.0 | 1.1 | 2.3 |
| TOTAL | M | 8.3 | 27.0 | 16.2 | 12.6 | 7.9 | 9.3 | 11.7 | 1.5 | 6.6 | 101.1* |
| | F | 19.5 | 34.4 | 15.8 | 8.3 | 4.5 | 2.7 | 2.6 | 0.0 | 12.5 | 100.3* |

N = 280 males; 272 females.

* Does not sum to 100 percent due to rounding.

Table L provides data on individual income classified by sex and educational attainment of recipients. The data are based on responses of 280 males and 272 females. It is seen that 8 percent of males and 19.5 percent of females earned no income during the past year irrespective of educational attainment. Females who attain a high school education or complete some grade of secondary school are more likely than males with the same educational attainment to be without a source of income. Over one-half (10.3 percent) of women without income had gone to high school one or more years. Alternatively, only 3.6 percent of men who had gone to high school at least one year were without income. Very few of the males had less than an eighth grade education.

More women than men are likely to earn between $1-499. Nearly 35 percent of women compared to 27 percent of men were in the category. Both sexes are represented in the lower educational levels more than is the case with Apaches receiving no income at all. Women with various levels of high school experience earning $1-499 account for 21 percent of females, whereas 13 percent of the males were in this category. Some persons of both sexes who had gone to college also receive less than $500 per year.

Men are more likely than women to earn over $500 per year. It has just been demonstrated that women outnumber men in the less than $500 categories. Approximately 16 percent of men and 15 percent of women receive between $500-999 per year. No women receive $10,000 or more annually, whereas about 1 percent of men do so. Roughly 2 percent of women and 11 percent of males receive $5,000-9,999 annually. The greater the level of income, the more likely the recipients are to have higher educational accomplishments. Individuals with less than an eighth grade education are more likely to receive less than $1,000 per year. Slightly over one-half of men dropping out of school after grade nine obtain incomes under $1,000 per year. Men completing grade ten and eleven have about a fifty-fifty chance to command incomes over $1,000 per year. Males completing high school are more likely than others of the same sex to receive incomes over $1,000 per year. However, those that go on to college fare best of all since they are more likely to find employment paying $3,000 or more annually.

Very few of the White Mountain Apaches attain income levels in excess of $3,000 per year irrespective of educational attainment. Such jobs as are available are "sheltered" in that non-Indians generally are

not permitted to compete. Few Apaches venture off the reservation, which indicates they are not oriented toward competing in the general labor market. The lack of jobs on the reservation is reflected in these situations. The incentive to obtain more education does not appear to be very great.

Indians with high school experience fare better than others. The Fort Apache resident is aware of the advantages of education in finding work. The tribe requires compulsory attendance until age 18 or graduation. The lack of desire to venture off the reservation relegates him to a lower income than might otherwise be possible. At any rate, it should be obvious to the tribal young that more rather than less education is desirable to obtain such jobs as do become available on the reservation. Fifty-five percent of males and 53 percent of females have completed some level of high school in the past. This record appears reasonable in view of their isolation and lack of desire to integrate into the larger society. Tribal efforts to require formal school attendance will undoubtedly raise the percentage in the future.

The incentive to remain in school is not yet as great for the Fort Apache as it is for the general population. It is obvious that the record of high school completion is low relative to the general population. The wide-spread seasonality of employment and the relatively low complexity of on-reservation work dictates against high school completion or the earning of college degrees. The White Mountain Apache will apparently have to look beyond the reservation before incentives become expressed in both high educational achievement and higher incomes.

### Consumption Patterns

The source and extent of income are important in explaining manpower utilization on the reservation. Such data provide insights into incentives to prepare educationally for competitive work. The Fort Apache Indian does not appear to be competitively oriented toward the world of work. Most reservation work is of a sheltered nature with nearly one-half of it provided by government.

Indians may have opportunities to develop more services on the reservation than currently exist. Training for the purpose of running individually owned businesses may be possible. Before passing on the feasibility of training to operate on-reservation firms, it is necessary to determine how income is spent by income category of families, on what it is spent, and where it is spent. It is also possible to determine

accessibility to distant areas to work by learning of expenditures on automobiles. Automobile repairs provide a rough index of the ability of Indians to commute to off-reservation work places.

Respondents were asked to provide information regarding where groceries, automobile repairs, and clothing were purchased. Did they usually buy on or off the reservation or about half and half. In addition they were asked to report on how such goods were paid for. That is, did they usually pay cash or use credit or were payments about equally divided between the two methods.

### Purchase of Goods and Services

Table LI reveals the places where Apaches usually purchase their goods and services. Nearly 69 percent usually frequent on-reservation trading posts to take care of their grocery needs. Only 6 percent usually buy grocery items off the reservation. However, 21 percent buy about one-half of their groceries off and the remainder on the reservation. A part of the reason for purchasing about one-half of grocery items off Indian land is accessibility to stores in nearby non-

TABLE LI
WHERE GOODS AND SERVICES ARE PURCHASED BY FAMILIES
(Percent)

| Place | Item | | |
|---|---|---|---|
| | Groceries | Automobile Repairs | Clothing |
| On-reservation | 68.7 | 8.7 | 63.5 |
| Off-reservation | 6.2 | 15.8 | 7.6 |
| Half and half | 21.0 | 10.8 | 26.4 |
| Do not know | 4.2 | 2.2 | 2.6 |
| None | 0.0 | 62.5 | 0.0 |
| TOTAL | 100.1* | 100.0 | 100.1* |

N = groceries 552; automobile repairs 539; clothing 550.
* Does not sum to 100 percent due to rounding.

Indian communities. Some are located nearer to off-reservation sources than to trading posts. Several trading posts that generally provide easy access for grocery shopping exist on tribal land. The lack of transportation and of facilities to store food items over even a short

period of time may partly dictate against off-reservation shopping for groceries.

Almost 63 percent of the population do not have need for automobile repairs. A majority of working-age Indians do not own such vehicles. The lack of transportation to commute from reservation to town can seriously impede Apache ability to seek job opportunities off the tribal land. It also has serious implications regarding knowledge of job openings that may occur because the Indian does not often communicate with persons working off tribal land. Since many employers add to working forces by publicizing job openings to existing employees, the White Mountain Apache is at a disadvantage because of a lack of off-reservation activity.

The lack of transportation may also generate serious obstacles in commuting from one part of the reservation to another to work. Absenteeism and turnover rates may be high because of inaccessibility to automobiles.

Individuals that do own cars seem to prefer to purchase their repairs from off-reservation operations. The lack of automobile ownership may have dictated against efforts to obtain competencies in repairing certain types of engine malfunctions as well as expertise in brake and transmission repair. The location of existing repair servicemen may also dictate against transporting disabled vehicles to Indian sources of repair. Only 9 percent of respondents usually take care of their repair needs on tribal land. Another 5 percent purchase repairs from stations on the reservation. The need for automobile repairmen seems certain, but it is limited. This finding is due to the lack of car ownership by Indians. Demand for repairmen can be expected to increase as the reservation is successful in economic development attempts. In addition, expanding opportunities to own and operate gasoline service stations should coincide with increased automobile ownership.

Clothing purchases are more likely to be made from trading posts in Indian communities that serve as general merchandise stores. Only about 8 percent usually buy their clothing needs from off-reservation sources; however, approximately one-fourth (26.4 percent) divide their purchases in half between trading posts and nonreservation sources. Dispersion of the population across the tribal property dictates against the generation of specialty clothing shops. Also, the development of specialty shops may be hampered because of the modesty of Indian clothing demands. Most wear similar types of

clothing and differentiation by style has not yet been developed. Low-income levels will possibly dictate against opportunities to diversify into clothing specialties for some time. The lack of interaction with nonreservation dwellers will also keep down demand for clothing in the foreseeable future.

### Method of Payment

The Fort Apache Reservation Indian does not have freedom of choice to be as selective as the general population in choosing stores to patronize. It has already been demonstrated that income levels are relatively low and, in turn, access to automobiles is limited. Low income makes Indian families susceptible to extensive credit. Once *credit is extended, the individual is locked-in regarding freedom to* choose between stores. Freedom of choice may be regained by refusal to honor credit obligations, but this could be disastrous to those families that depend upon credit arrangements because of widespread seasonality of employment. Table LII reveals the extent of credit use on the Fort Apache Reservation.

Respondents were asked to supply information regarding how they usually paid for groceries, automobile repairs, and clothing. At least 70 percent usually obtain grocery needs on a credit basis. Another 9 percent did not know the basis on which their families contracted for grocery items. It seems logical to assume that a sizable proportion of them do so on credit. Only 21 percent usually purchase groceries on a cash basis.

TABLE LII
METHOD OF PAYING FOR FAMILY PURCHASES
(Percent)

| | Item | | |
|---|---|---|---|
| Method of Payment | Groceries | Automobile Repairs | Clothing |
| Cash | 21.5 | 54.2 | 26.9 |
| Credit | 69.6 | 23.2 | 64.6 |
| Oil company credit card | | 1.5 | |
| Do not know | 8.9 | 21.2 | 8.6 |
| TOTAL | 100.0 | 100.1* | 100.1* |

N = groceries 550; automobile repairs 203; clothing 550.
* Does not sum to 100 percent due to rounding.

Automobile repairs differ in that a majority of the population maintain cars and trucks by use of cash. The necessity to keep cars in running order by cash purchases of repairs may hinge on the source from which they are purchased. Off-reservation repairmen are often reluctant to provide services to Indians on credit. Inaccessibility to off-reservation credit forces most to save for major repairs or otherwise to provide cash when servicemen perform their work. On-reservation stations may be be the only source of credit work and they may not be strategically located or may be inferior in performance. Low-income levels may even dictate against credit for major repairs from reservation service stations. Only one percent (1.5) hold oil company credit cards that give them access to credit wherever they demand it.

Clothing needs, like groceries, are largely acquired on a credit basis. Generally, such purchases are from trading posts. Approximately 65 percent of the population obtain clothing by use of credit. Nearly 27 percent obtain their clothes by using cash. However, it should be noted at this point that some welfare sources such as churches send checks to the trading posts earmarked for clothing purchases only. Unearned income of this nature is certainly important to the Apache as demonstrated previously, but in the absence of such earmarked funds, it is likely that more would supply their clothing needs by use of credit.

Low-income families may be tied to reservation merchants more than those with higher earnings. Credit use may be essential for survival for low-income families since they are not able to make their purchases of necessities coincide with the dates their limited incomes are received.

### Method of Payment by Family Income Level

Table LIII provides a refinement of family cash and credit transactions. On-reservation merchants obtain considerable assistance from employers in that they are notified of the amount of net income a particular person can be expected to earn during a specified pay period. On the basis of such knowledge, trading post operators and others extend credit up to roughly 80 percent of the expected net income of the individual. Paychecks are then sent to the merchants, which insures that credit obligations will be honored. The Bureau of Indian Affairs and other government agencies cooperate in this

practice. It will be recalled that all levels of government provide about one-half of all employment.

TABLE LIII
EXTENT OF CASH AND CREDIT USE BY INCOME LEVEL
(By percent of each income group)

| | Item Purchased | | | | | |
|---|---|---|---|---|---|---|
| | Groceries | | Automobile Repairs | | Clothing | |
| Family Income | Cash | Credit | Cash | Credit | Cash | Credit |
| $ 0 - 499 | 24.2 | 75.8 | 79.0 | 21.0 | 29.6 | 70.4 |
| 500 - 999 | 14.7 | 85.3 | 80.0 | 20.0 | 16.4 | 83.6 |
| 1,000 - 1,999 | 17.3 | 82.7 | 93.8 | 6.2 | 27.8 | 72.2 |
| 2,000 - 2,999 | 20.5 | 79.5 | 44.4 | 55.6 | 35.0 | 65.0 |
| 3,000 - 4,999 | 26.8 | 73.2 | 58.3 | 41.7 | 29.0 | 71.0 |
| 5,000 - 9,999 | 35.3 | 64.7 | 56.4 | 43.6 | 39.6 | 60.4 |
| 10,000 and over | 30.8 | 69.2 | 62.5 | 37.5 | 53.9 | 46.1 |
| Info. not avail. | 24.3 | 75.7 | 73.3 | 26.7 | 29.7 | 70.3 |

N = groceries 498; automobile repairs 160; clothing 501.
Note: Summation is horizontally by good or service in each income category.

*Groceries.* It seems obvious from Table LIII that credit is utilized extensively by families when buying groceries, irrespective of income levels. The tradition of purchasing groceries on credit appears so entrenched that even those with the financial ability to operate on a cash basis decline to do so. It may well be, however, that many of those in the higher-income brackets do not receive their funds on a regular basis. Some may receive money on a seasonal basis such as only at times that cattle sales are held. In such cases, credit purchases may be necessary. Several months may lapse between the time when grocery purchases are necessary and the time income is received. It is also possible that the dependence on grocery credit throughout all ranges of income reflects a lack of accepted consumer practices. The availability of consumer education might alleviate some of the credit practices among those that can conceivably afford to exercise greater consumer choice.

Families with incomes ranging from $0-2,999 probably utilize credit to the fullest possible extent out of sheer economic necessity. Family size and low incomes force them to take advantage of all available avenues of providing family needs. Categories above $3,000

evidence some decline in credit use for groceries, but the decrease is not proportionate to the rise in income.

It seems obvious that the White Mountain Apache survives in a credit economy. The condition prevails throughout the entire range of family incomes. Consequently, credit use has the effect of establishing virtual monopoly situations for trading post operations with possible competition between traders for Indian business when several are located in the same community. Little competition from off-reservation merchants exists and little is possible partly because of a lack of transportation.

*Automobile Repairs.* Accessibility to automobile repairs on a credit basis generally seems to rise with income. Approximately 79 percent of families in the $0-499 annual income range must pay cash for repair services. Twenty-one percent of repairs are purchased through the use of credit.

Credit does not seem highly available to families with incomes of $1,000-1,999; only 6 percent use credit. This may relate largely to the types of cars and trucks purchased by the lower-income groups. That is, their demand for automobile repair services may be more frequent and of a more serious nature than is the case with families with higher incomes. Sources of credit available to low-income groups can dry up with excessive need relative to those groups on a more solid financial foundation. Higher-income families are more likely to purchase later model automobiles and, therefore, their need for repairs on credit are relatively less frequent. Repairs that are needed on the later model cars are less likely to be serious, and the need for credit is less.

It seems logical to assert that lower-income families will be less able than families with higher incomes to commute uninterrupted to work or to seek jobs. The ability to honor credit terms declines as the need for such services increases.

*Clothing Purchases.* The availability of clothing items relative to automobile services at reservation outlets is reflected in the increase in credit usage by income group. The $10,000 and over category is the only one supplying over one-half of clothing needs on a cash basis. Clothing purchases depend heavily on cash transactions, but less so than is the case with automobile repairs.

Credit purchases of clothing account for over one-half of such expenditures on the part of all the income groups under $10,000 per year. The importance of the trading post as a general merchandiser is once again reflected in this record.

*Summary of Method of Payment.* All three expenditure categories provided give insights into the monopoly positions of trading posts on the Fort Apache Reservation. Traders are secure in large part because of the low family incomes reflected in the inability to travel to adjacent towns to purchase goods and services on a cash basis. Credit terms are generally unavailable to Indian families in towns near the tribal boundaries.

Automobile repairs are largely provided on a cash basis off tribal land. This in large part reflects the lack of garages on Indian land, but it also reflects the inaccessibility to credit from nonreservation merchants.

Credit is strengthened on the reservation because of widespread support from government agencies assisting traders in collecting from employed Indians. The lack of assistance might lead to an even lesser standard of living than that which currently prevails. At the same time, the existence of credit and the manner in which it is administered limits the range of freedom available to Apaches to choose how they will expend limited incomes.

## Expenditure Patterns

The expenditure patterns illustrated in Table LIV both support and extend the discussion of the preceding section. On the basis of all respondents purchasing the three categories of goods, it is obvious that of those paying cash, the lowest family income category constitutes more than any other group. This aspect reflects the concentration of Apaches into the lowest family income range. Nearly 8 percent of all grocery purchasers who pay cash for transactions are in families earning less than $500 per year. The next highest cash paying group earns $5,000-9,999 annually and accounts for nearly 4 percent of Apaches. The same trend exists in automobile repairs and clothing purchases. In terms of all buyers of the items, those paying cash are more numerous in the $0-499 and $5,000-9,999 categories. Roughly 19 percent of all automobile repairs and 9 percent of all clothing are purchased on a cash basis by the least well-to-do Indians. They are followed closely by individuals with family incomes in the $5,000-9,999 category.

In terms of only those paying cash for items purchased, families in the $0-499 annual income category are most numerous. They constitute nearly one-third of the total paying cash for groceries, 28

## TABLE LIV
## METHOD AND EXTENT OF PAYMENT BY FAMILY INCOME LEVEL
## GROCERIES, AUTO REPAIRS, AND CLOTHING
(Percent)

| Family Income | Method of Payment: Cash — Percent of Total Purchasing Item (1)Gro. | (2)Auto | (3)Cloth. | Cash — Percent of Total Paying Cash (4)Gro. | (5)Auto | (6)Cloth. | Credit — Percent of Total Purchasing Item (1)Gro. | (2)Auto | (3)Cloth. | Credit — Percent of Total Using Credit (7)Gro. | (8)Auto | (9)Cloth. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $ 0 - 499 | 7.6 | 19.4 | 9.4 | 32.8 | 28.2 | 31.8 | 24.5 | 5.0 | 23.0 | 31.9 | 16.0 | 32.6 |
| 500 - 999 | 2.0 | 5.0 | 2.2 | 8.6 | 7.3 | 7.4 | 11.7 | 1.3 | 11.2 | 15.2 | 4.0 | 15.8 |
| 1,000 - 1,999 | 1.8 | 9.4 | 3.0 | 7.8 | 13.6 | 10.1 | 8.6 | 0.6 | 7.8 | 11.3 | 2.0 | 11.1 |
| 2,000 - 2,999 | 1.6 | 2.5 | 2.8 | 6.9 | 3.6 | 9.5 | 6.2 | 3.1 | 5.2 | 8.1 | 10.0 | 7.4 |
| 3,000 - 4,999 | 2.2 | 8.8 | 2.2 | 9.5 | 12.7 | 7.4 | 6.0 | 6.3 | 5.4 | 7.8 | 20.0 | 7.6 |
| 5,000 - 9,999 | 3.6 | 13.8 | 4.2 | 15.5 | 20.0 | 14.2 | 6.6 | 10.6 | 6.4 | 8.6 | 34.0 | 9.1 |
| 10,000 or more | 0.8 | 3.1 | 1.4 | 3.4 | 4.6 | 4.7 | 1.8 | 1.8 | 1.2 | 2.4 | 6.0 | 1.7 |
| Info. not avail. | 3.7 | 6.9 | 4.4 | 15.5 | 10.0 | 14.9 | 11.3 | 2.5 | 10.4 | 14.7 | 8.0 | 14.7 |
| TOTAL | 23.3 | 68.9 | 29.6 | 100.0 | 100.0 | 100.0 | 76.7 | 31.3 | 70.6 | 100.0 | 100.0 | 100.0 |

N = (1) Groceries = 498 (2) Auto repairs = 160 (3) Clothing = 501
(4) Cash = 116 (5) Cash = 110 (6) Cash = 148
(7) Credit = 382 (8) Credit = 50 (9) Credit = 353

percent of automobile repairs, and 32 percent of cash clothing purchasers. Concentration of such a large proportion of Apaches in the low-income category reflects their importance to the reservation economy. The heavy concentration of cash purchasers in the less than $500 income category does not suggest they are most important in total dollar volume of all goods sold. The heavier reliance on cash does suggest their inability to provide adequate diets for families. In addition, they are most likely to be poorly clothed and have the least access to transportation for the purpose of improving their economic lot.

The $5,000-9,999 income category follows the under $500 category in terms of number of families purchasing all items on a cash basis. The more affluent group accounts for less than one-half of the smallest-income group. However, in total dollar outlay for all items, the more affluent are probably more important to reservation economy than the least well-to-do families.

Credit is more important to low-income families for basic subsistence than to families with higher incomes. This is the case despite the relatively high use of credit by higher-income groups. The $0-499 income group accounts for one-third of all credit purchases of groceries with 77 percent of all groceries sold to families being on a credit basis. Less than one-fourth of all groceries are sold on a cash basis. Families with incomes ranging from $2,000-9,999 generally require about the same total of credit. However, the importance of such transactions to the $2,000 group is greater than to the $5,000 group.

Less than one-third (31.3 percent) of total automobile repairs are on a credit basis. Nearly 11 of the 31 percent is accounted for in the $5,000-9,999 income category. Lower-income groups also get their repairs by use of some credit, but it does not appear to be available to very many. In terms of all credit users, the $0-499 income category accounts for 32 percent of families purchasing groceries by this method. They are twice as numerous as the next highest group, which is the $500-999 range, and which accounts for 15 percent of credit using families. The two groups receiving $0-999 also provide the greatest demand for clothing credit. Combined they account for roughly 48 percent of families seeking credit for apparel. The low-income families obviously must provide their basic needs by use of credit, which has the effect of tiding them over during hard periods.

Credit use for automobile repairs is much greater in the two income categories ranging from $3,000-9,999 annually. The $5,000-9,999

group accounts for 34 percent of families using repair credit while the $3,000-4,999 group accounts for 20 percent. These groups have greater access to automobile purchases than families receiving less income. They are also more able to afford to contract for credit repairs than families with lesser ability to repay. Even so, the $0-499 income group accounts for 16 percent of families requiring repair credit purchases.

In short, it is obvious that credit is a way of life with the White Mountain Apache. Credit purchases are demanded by all income groups, but are absolute necessities for the lowest-income recipients. Consumer education programs might assist all income groups in terms of more efficient allocation of scarce dollars, but it would seem to be especially appropriate for those on meager family incomes.

## *NOTES*

[1]White Mountain Apache Tribe, *Preliminary Overall Economic Development Program,* Whiteriver, Arizona, 1961, p. 11.

[2]Leon H. Keyserling, *The Role of Wages in a Great Society* (Washington: Conference on Economic Progress, 1966), p. 21.

[3]*Economic Report of the President* (Washington: U. S. Government Printing Office, 1968), p. 232.

# Conclusions

Fort Apache Indians live in relative geographic and cultural isolation. In prior years, reservation Indians were restricted in any efforts they may have advanced for inclusion in the mainstream of economic activity. That the Apaches desire to partake of the economic gains enjoyed by the general U. S. population is apparent in their efforts to establish tribal-owned businesses and to attract non-Indian enterprises to the reservation. Events of the past do not lend themselves to simple solutions in an economy generally characterized as one of accelerating technological change. Change is obviously underway among the Fort Apache working-age population, but proceeds at a less rapid rate than for non-Indians. The economic gap between Fort Apache Indians and the general U. S. population is obvious from the data presented in the study.

The potential for labor force participation of a particular population depends upon several important factors. One is its age composition. The Apaches are relatively younger than the general population. On the Fort Apache Reservation, 64.2 percent of the working-age population are aged 16-40. In the United States as a whole, only 47 percent of the population aged 16 and over are in the 16-40 age group. Despite the relative youthfulness of the Indians, their overall labor force participation rate is 12.1 percent below that of the general U. S. population. In some prime working-age categories, the Indian labor force participation rates dip below the overall lower rate just mentioned. For example, those in the 40-49 age group have a rate that is 21.3 percent below that for the general population; in the 50-59 category, the rate is 28.7 percent below. This lower participation rate reflects the fact that the Fort Apache Indians start dropping out of the

labor force in their thirties compared to the sixties for the general U. S. labor force.

Indian women do not compare as favorably with U. S. women in their labor force activities as do Indian men with U. S. men. Apache females are most active during their twenties and withdraw from the labor force thereafter. There is a tendency for females to reenter after their exit, but it is not until they reach their fifties compared to the forties for all U. S. women. Generally, there is delayed initial labor force entry on the part of Fort Apache women and delayed reentry. Also reentry appears to be for only a short period of time.

Apaches participating in the civilian labor force typically work for either the federal government or in tribal enterprises. Nearly one-half of the working-age population has depended upon government employment during the past five years. Occupations in which work is usually performed is of a service type; about 30 percent age 16 and over typically function in service categories. The data reveal that the Apaches are generally concentrated in marginal types of employment. Obviously, therefore, they are economically more successful when the United States is approaching full employment. As unemployment rises generally in unskilled categories, the Indian's ability to compete for scarce jobs declines.

The Apache's inability to compete for scarce jobs in labor markets characterized by excess unskilled labor is in part the result of his having a median education of only nine years. In addition, there is an obvious disadvantage brought about because of deficiencies with the English language. Most Apaches use an Indian language most frequently in the home and this factor along with relatively lower educational attainment places him at a distinct disadvantage when employment aptitude tests are administered.

Fort Apache Indians, therefore, tend to remain on the reservation to share in the total income received by families. A median family of five children subsists on a median family income of under $1,000 annually. Not all of this relatively low family income is earned. Nearly 60 percent of working-age Apaches receive assistance payments from various public and private agencies.

The immediate possibility of alleviating this situation is not bright. Even if the desire to seek work at off-reservation areas were present, the ability to do so is not; nearly 63 percent of families do not own automobiles, but must depend upon friends for transportation. A lack of transportation plus the relatively low median educational attain-

ment seems to indicate that Fort Apaches will not be able to compete equally in an uncovered labor market for some years.

Unsuccessful attempts to compete for scarce jobs may make the present situation worse, unless education and skills training are provided prior to efforts to obtain employment. A coordinated effort to provide the Apaches with quality education, including skills training, is necessary to bring about increased labor force participation. Tribal efforts to create employment opportunities are commendable, but the results are insufficient relative to the demand for jobs. The Apache must eventually penetrate the unsheltered labor market away from the reservation if he chooses to raise his overall economic welfare.